TA-N1

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model



SPECIFICATIONS

Amplifier section

Power Output
200 W + 200 W (8 Ω)
400 W + 400 W (4 Ω)

Speaker Nominal Impedance:
4 Ω ~ 16 Ω

Harmonic distortion
less than 0.005% (at 8 Ω, 10 W, THD)

Dumping factor
150 (at 8 Ω, 1 kHz)

Frequency response
5 Hz ~ 300 kHz + 0/– 1 dB (at 8 Ω, 1 W)

Input sensitivity and Impedance
1.5 V, 20 kΩ (Unbalanced)
1.5 V, 40 kΩ (Balanced)

Gain 28 dB

S/N more than 115 dB (Input shorted, A-Fil)

General

System Pure-complementary High Power Legato Linear SEPP MOS FET power amplifier

Power requirements
USA and Canadian models
120 V AC, 60 Hz
European models
230 V AC, 50/60 Hz

Power consumption
USA and Canadian models
6.0 A
European models
600 W

Dimensions 480 × 245 × 530 mm
($18^{7}/_{8} \times 9^{5}/_{8} \times 20^{7}/_{8}$ in.)
including projecting parts and controls

Mass (Approx.)
70 kg (154 lbs. 4 oz.)

Supplied accessories
- AC power cord (1)
- AC power plug adapter (3 to 2 prong polarized type) (1) (USA/Canada only)

Design and specifications are subject to change without notice.

STEREO POWER AMPLIFIER

MICROFILM

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

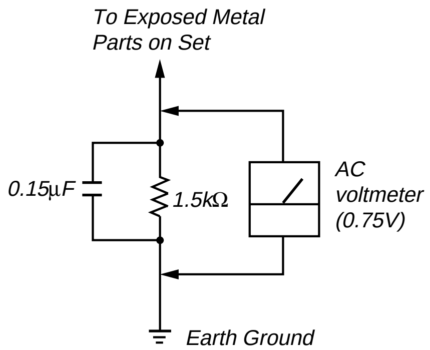


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING !!

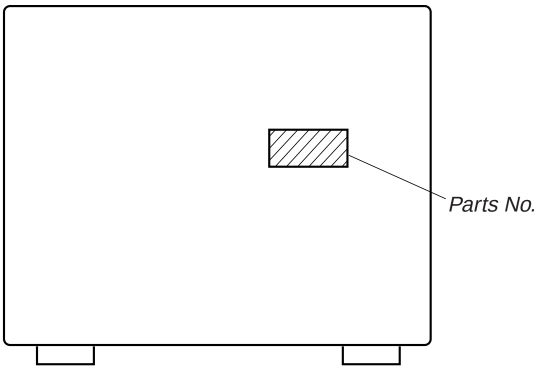
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

MODEL IDENTIFICATION
— BACK PANEL —



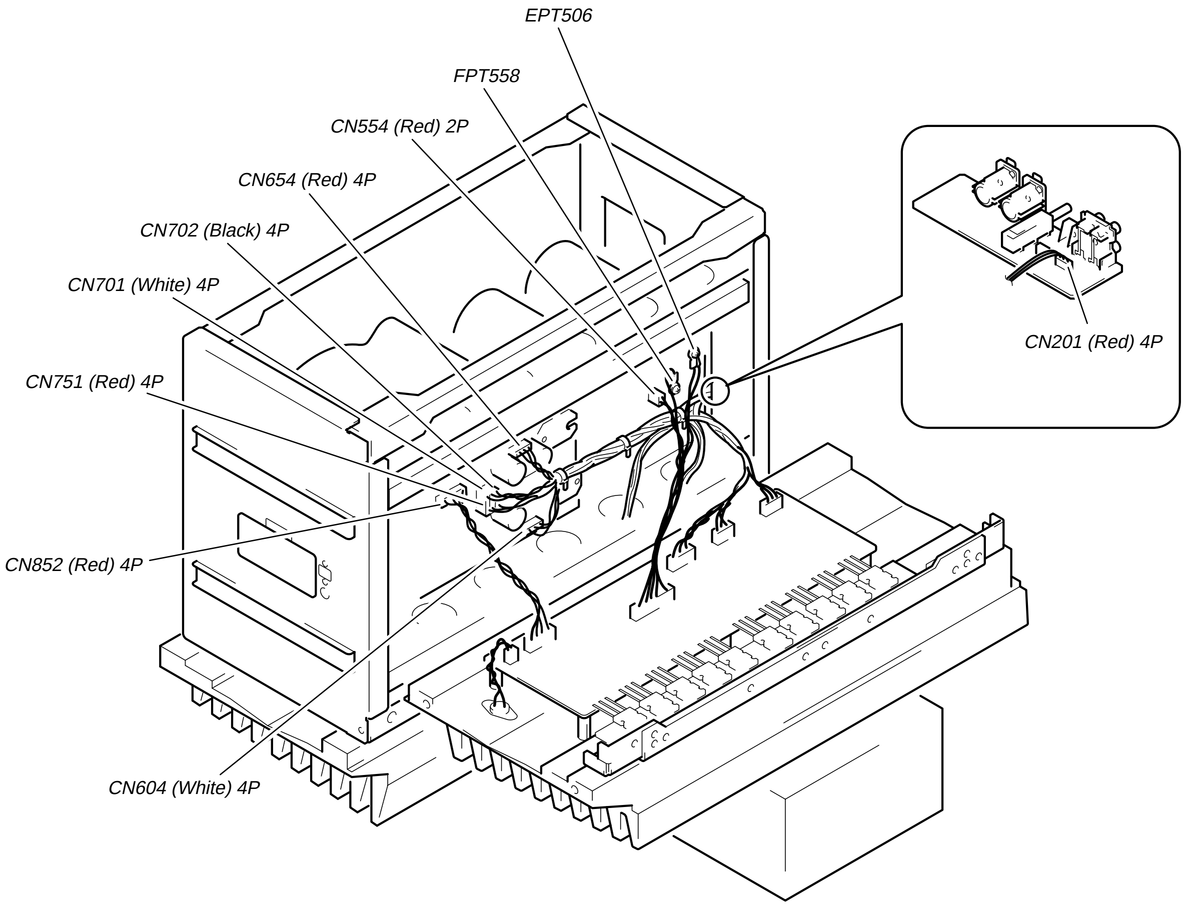
PARTS No.	MODEL
4-217-757-1☐	US , CND
4-217-757-2☐	AEP, UK, E, AUS

- Abbreviation
  CND : Canadian model
  AUS : Australian model

SECTION 1
SERVICE NOTE

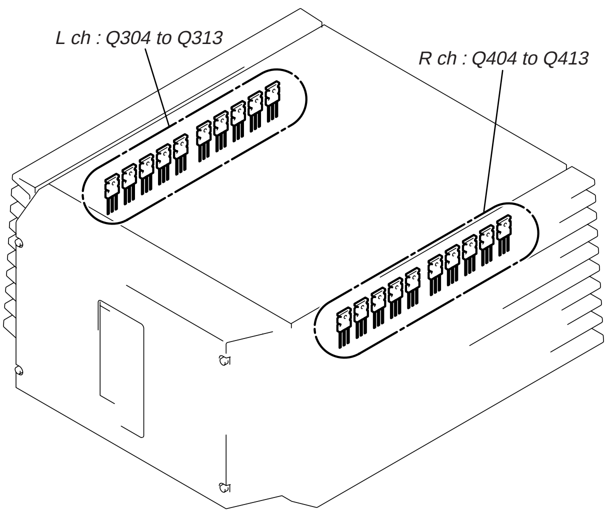
• SERVICE POSITION

When performing servicing, use a table about 15 cm as shown in the figure.



• REPLACING THE POWER TRANSISTOR

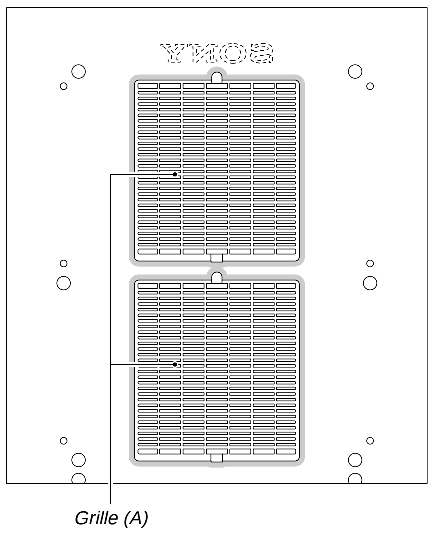
When replacing the power transistors (Q304 to Q313: L-ch, Q404 to Q413: R-ch), replace all ten together.



• SECURING THE GRILL (A)

When securing the grill (A) to the top panel, use the Sony bond SC608LV (7-432-912-48). ( )

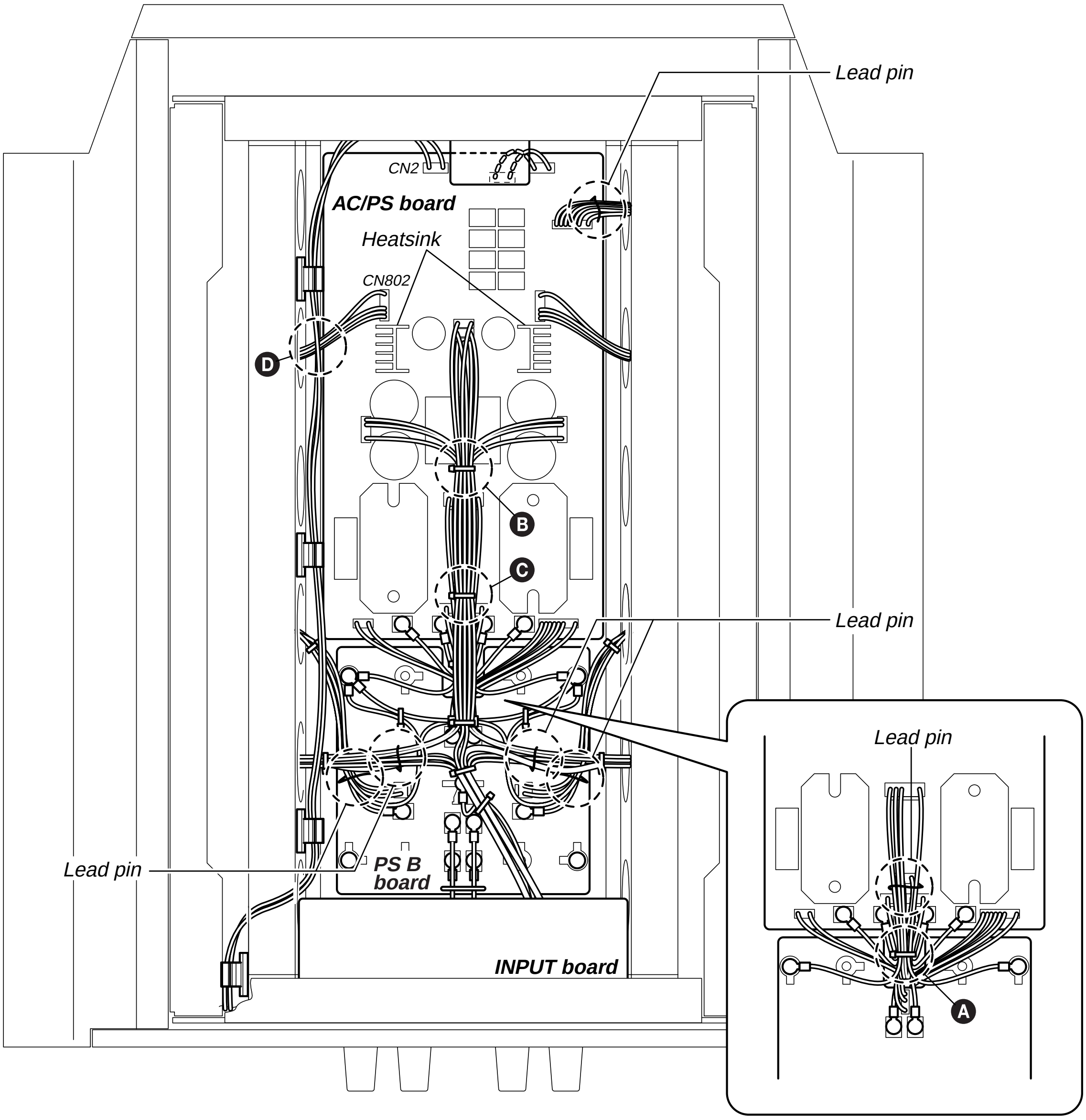
Top panel (Buttom side)



• NOTE ON ARRANGING WIRES

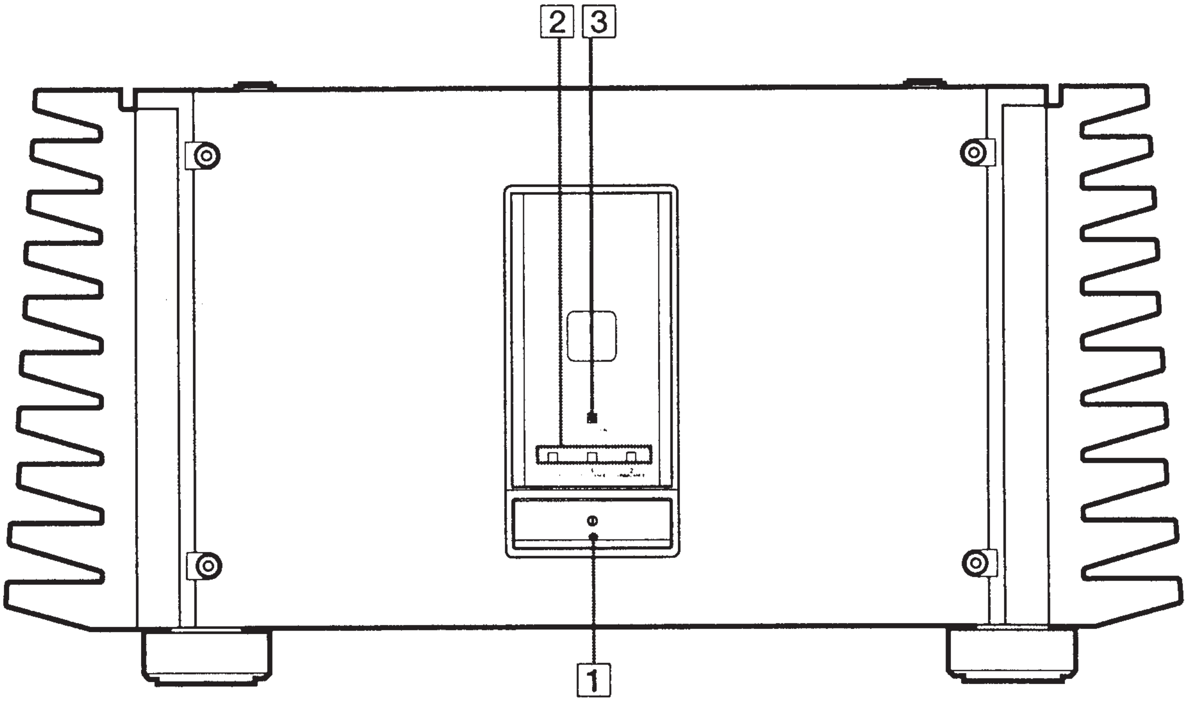
As how the wires in this unit are drawn affect the sound quality, note down the positions of wires before beginning servicing. After repairs, arrange the wires as follows.

Ⓐ : After binding wires, push down.
Ⓑ : Bind avoiding touching the heatsink.
Ⓒ : Bind avoiding touching the wires below (binder Ⓐ).
Ⓓ : Arrange so that the wires from CN802 pass below the wires from CN2.



This section is extracted from instruction manual.

Front Panel Parts Description



1 ① (power) switch

Press to turn the power amplifier on and off.

- When turning the power on, turn down the volume on the preamplifier to a minimum, then turn the preamplifier and this unit on respectively. Similarly, when turning the power off, turn down the volume on the preamplifier, then turn the amplifier and preamplifier off respectively. This is done to prevent damage to the speakers.

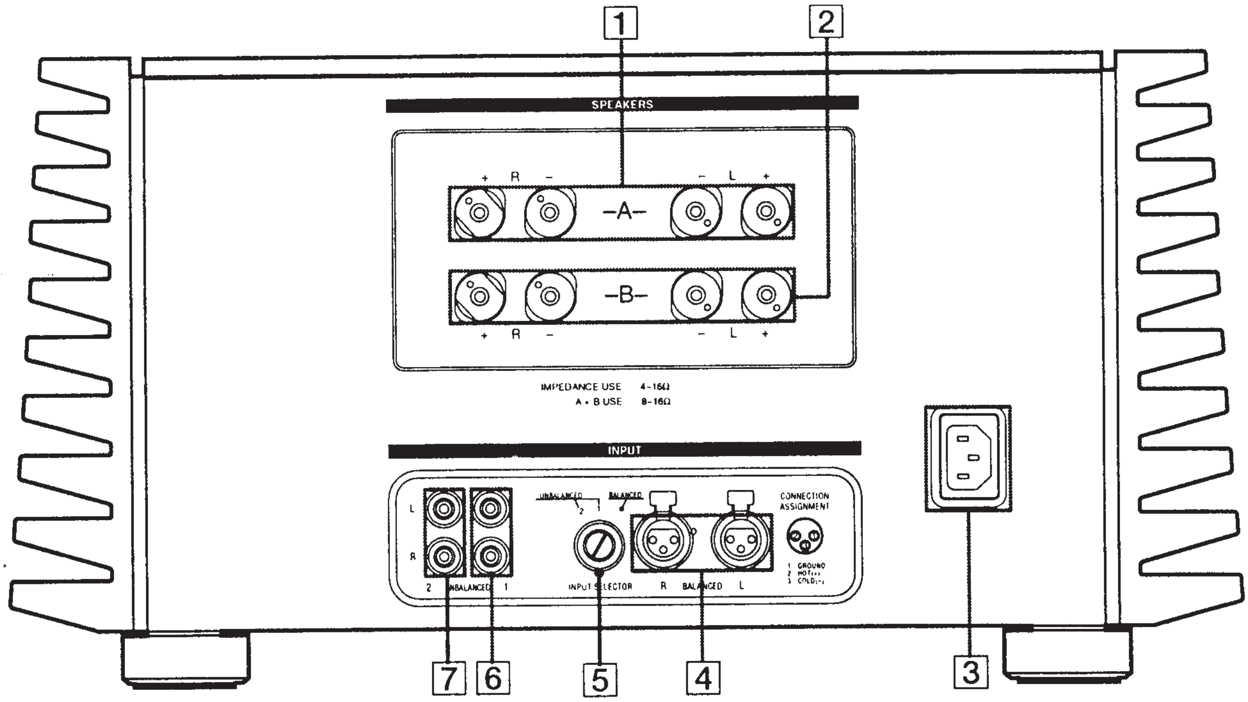
2 Input indicators (BALANCED/UNBALANCED 1/ UNBALANCED 2)

Light to indicate the input selected with the INPUT SELECTOR control on the rear panel.

3 PROTECTION indicator

Lights for about 16 seconds after the power is turned on. After that, the blue light above the indicator lights. When there is a short circuit in one of the speakers, the protection circuitry in this unit is automatically activated. The PROTECTION indicator lights when the protection circuitry is activated, and sound is not produced from the speakers. Should this occur, turn the power off, and check that the speakers connections are correct.

Rear Panel Parts Description



1 **SPEAKERS A jacks**

2 **SPEAKERS B jacks**
Use with SPEAKERS A terminals when bi-wired speaker connections are made .

3 **AC IN terminal**
Use to connect the supplied power cord to the AC IN terminal to supply power to this unit from a wall .outlet.

4 **BALANCED input jacks**
Use to connect the BALANCED output jacks on a preamplifier to this unit. Select BALANCED with the INPUT SELECTOR knob (5).

5 **INPUT SELECTOR control**
Turn to select the input.

6 **UNBALANCED 1 input jack**
Use to connect the PRE OUT jacks on a preamplifier to this unit . Select UNBALANCED 1 with the INPUT SELECTOR knob (5).

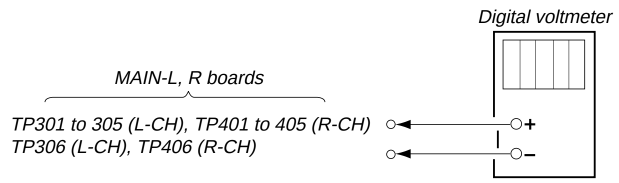
7 **UNBALANCED 2 input jack**
Use to connect the PRE OUT jacks on a preamplifier to this unit. Select UNBALANCED 2 with the INPUT SELECTOR knob (5).

SECTION 3
ELECTRICAL ADJUSTMENT

BIAS CURRENT ADJUSTMENT

- As the voltage changes according to the time the power is supplied, adjust correctly according to the following procedure.

Connection:



Procedure:

1. Measure the voltage at the five measuring points just after supplying the power, and adjust RV301 (L-CH) and RV401 (R-CH) so that the measuring point with the lowest voltage becomes approx 15 mV.

	Measuring Point	Adjusting Point
L-CH	Between the 5 measuring points (+) TP301, TP302, TP303, TP304, TP305 and TP306 (–)	RV301
R-CH	Between the 5 measuring points (+) TP401, TP402, TP403, TP404, TP405 and TP406 (–)	RV401

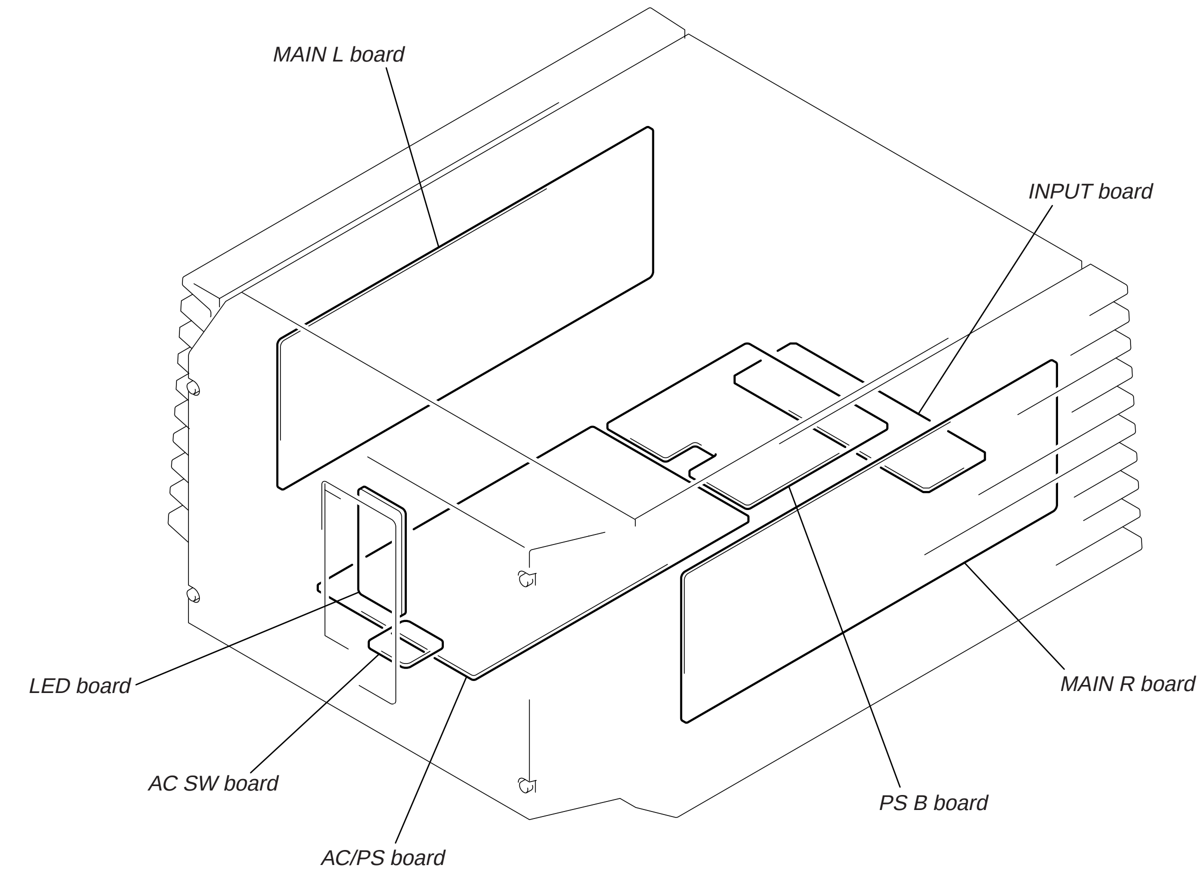
2. Leave for one hour with the power supplied. (Aging)
3. Measure the voltage at the respective measuring points and adjust RV301 (L-CH) and RV401 (R-CH) so that the voltages become within the ranges shown in the following table. Adjust to the voltage with the highest priority shown in the table as much as possible.

Priority Order	Adjusting Value
1st (Highest priority)	19.8 mV to 22.0 mV
2nd	19.8 mV to 24.2 mV
3rd	18.7 mV to 24.2 mV
4th	18.7 mV to 25.2 mV
5th	15.0 mV to 25.2 mV

4. Leave for another 30 minutes if the adjustment control has been rotated.
5. Measure the voltage again and check that it is within the adjusting value. If outside, repeat from step 3 again.
6. Be sure to perform aging for more than 30 minutes if the adjustment control has been rotated. Finally check the voltage before ending the adjustment.

SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- B+ : B+ Line.
- B– : B– Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground in playback mode.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : AUDIO

For printed wiring boards.

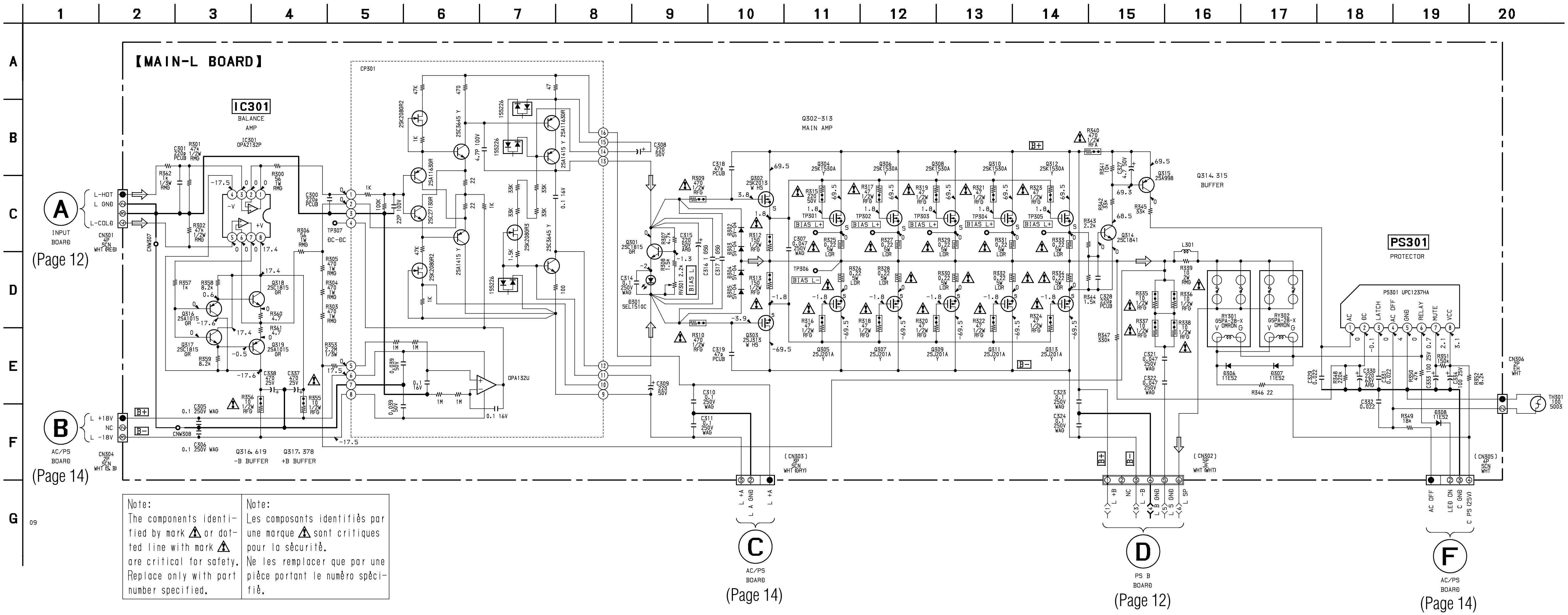
Note:

- : parts extracted from the component side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

4-2. SCHEMATIC DIAGRAM – MAIN L SECTION –

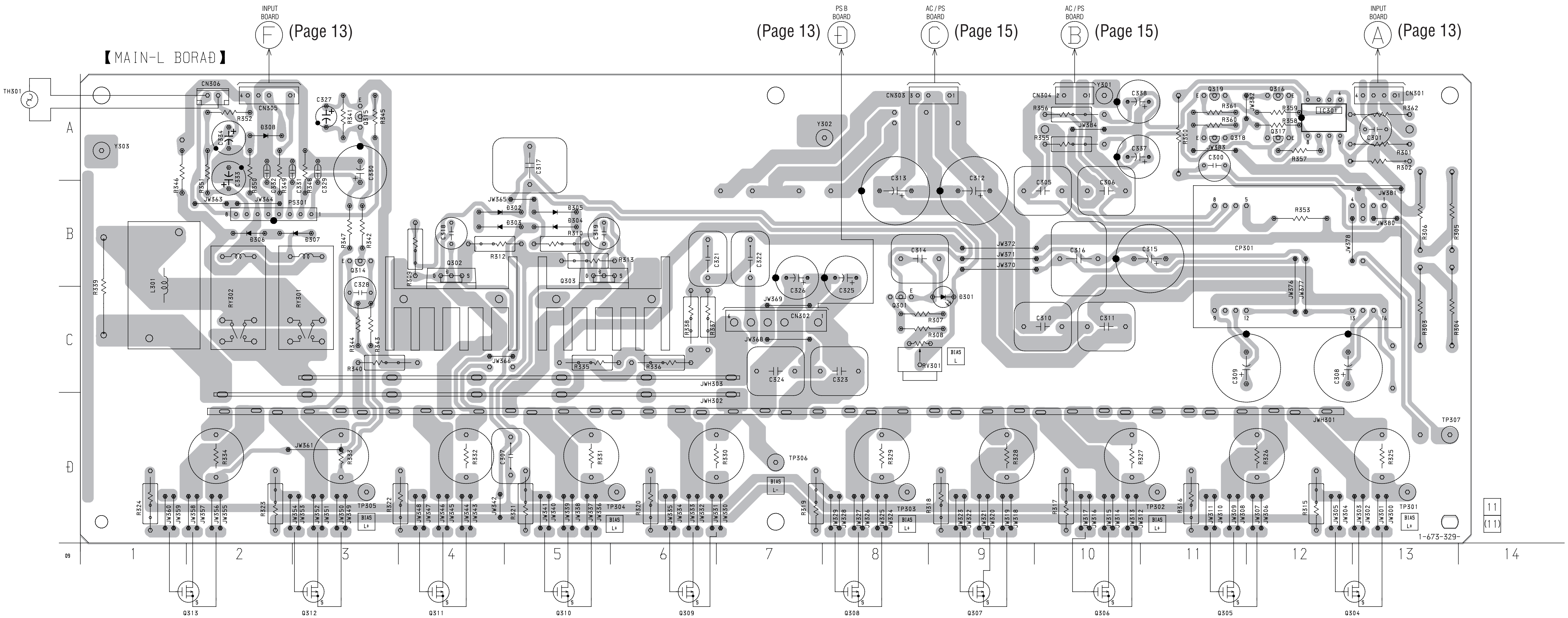


Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

4-3. PRINTED WIRING BOARD – MAIN L SECTION –

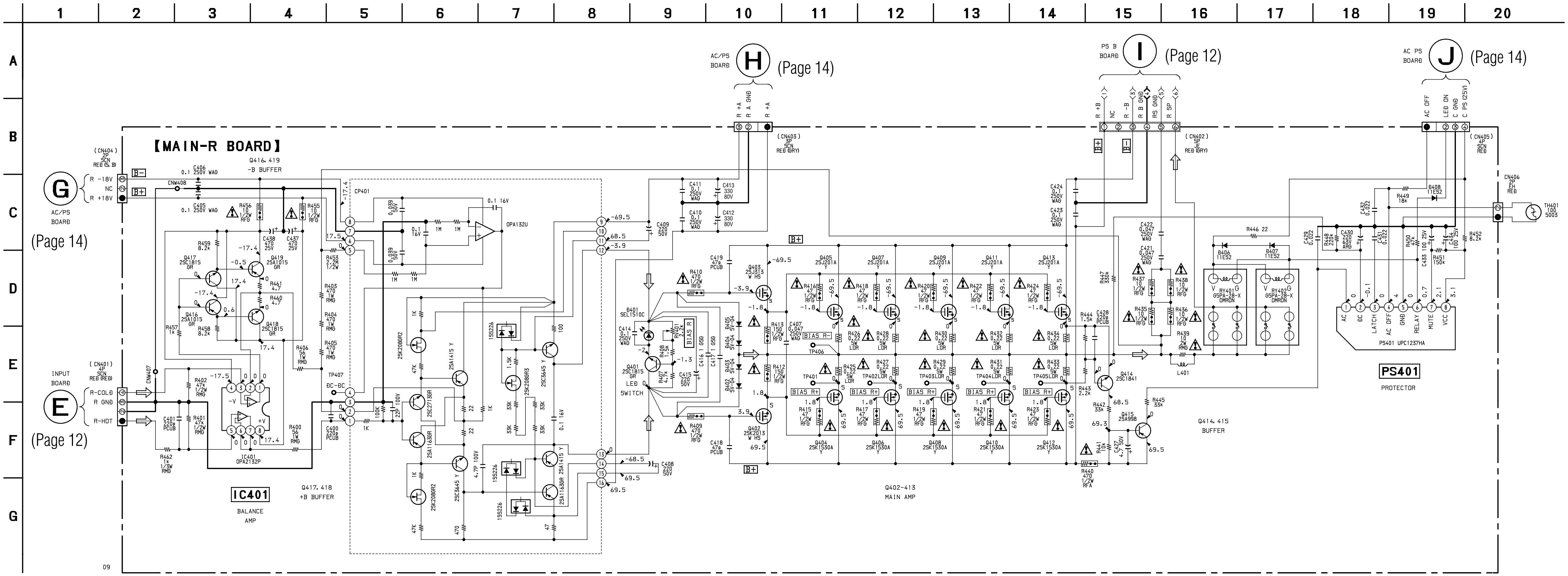
• Refer to page 7 for Circuit Boards Location.



• Semiconductor Location

Ref. No	Location	Ref. No	Location
D301	C-9	Q305	D-11
D302	B-4	Q306	D-10
D303	B-4	Q307	D-9
D304	B-5	Q308	D-8
D305	B-5	Q309	D-6
D306	B-2	Q310	D-5
D307	B-3	Q311	D-4
D308	A-2	Q312	D-3
		Q313	D-1
IC301	A-12	Q314	B-3
		Q315	A-3
Q301	C-8	Q316	A-12
Q302	B-4	Q317	A-12
Q303	B-5	Q318	A-11
Q304	D-13	Q319	A-11

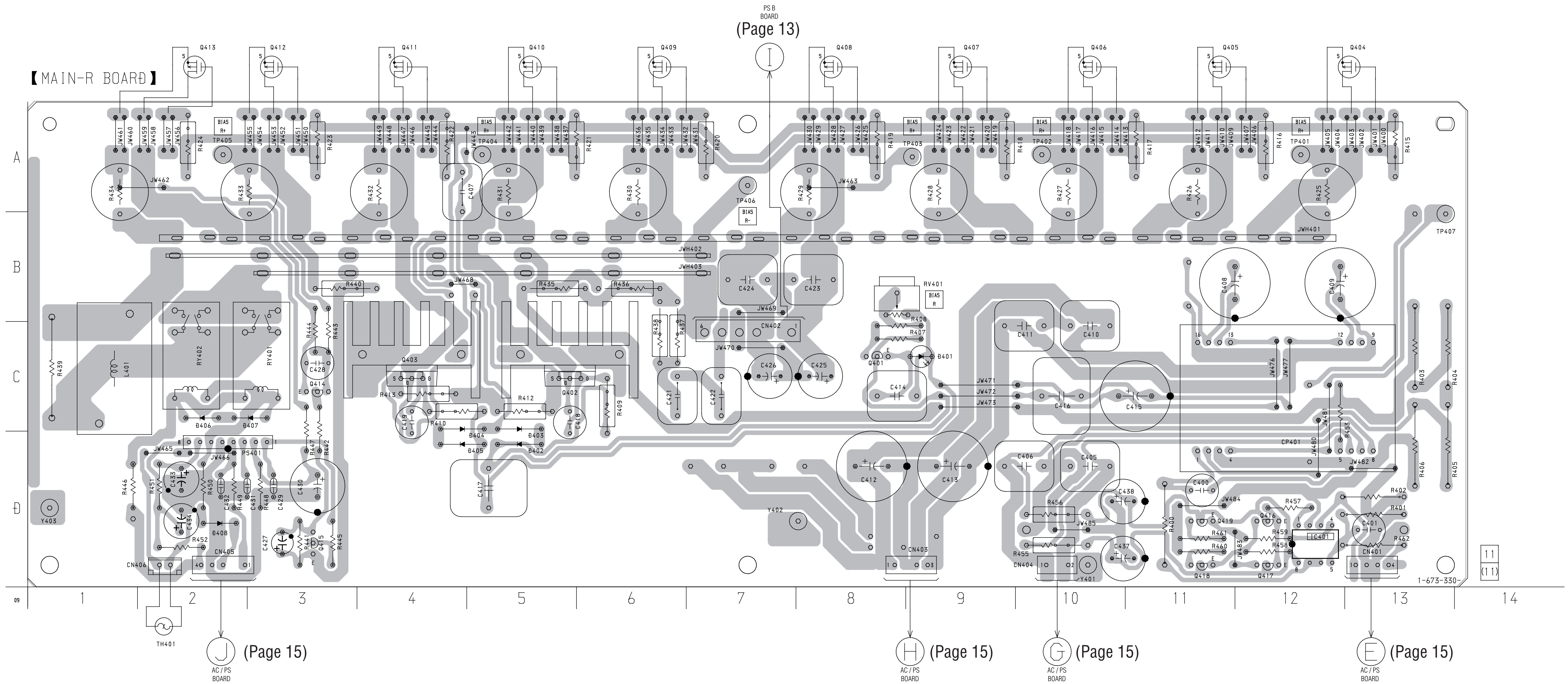
4-4. SCHEMATIC DIAGRAM – MAIN R SECTION –



Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-5. PRINTED WIRING BOARD – MAIN R SECTION –

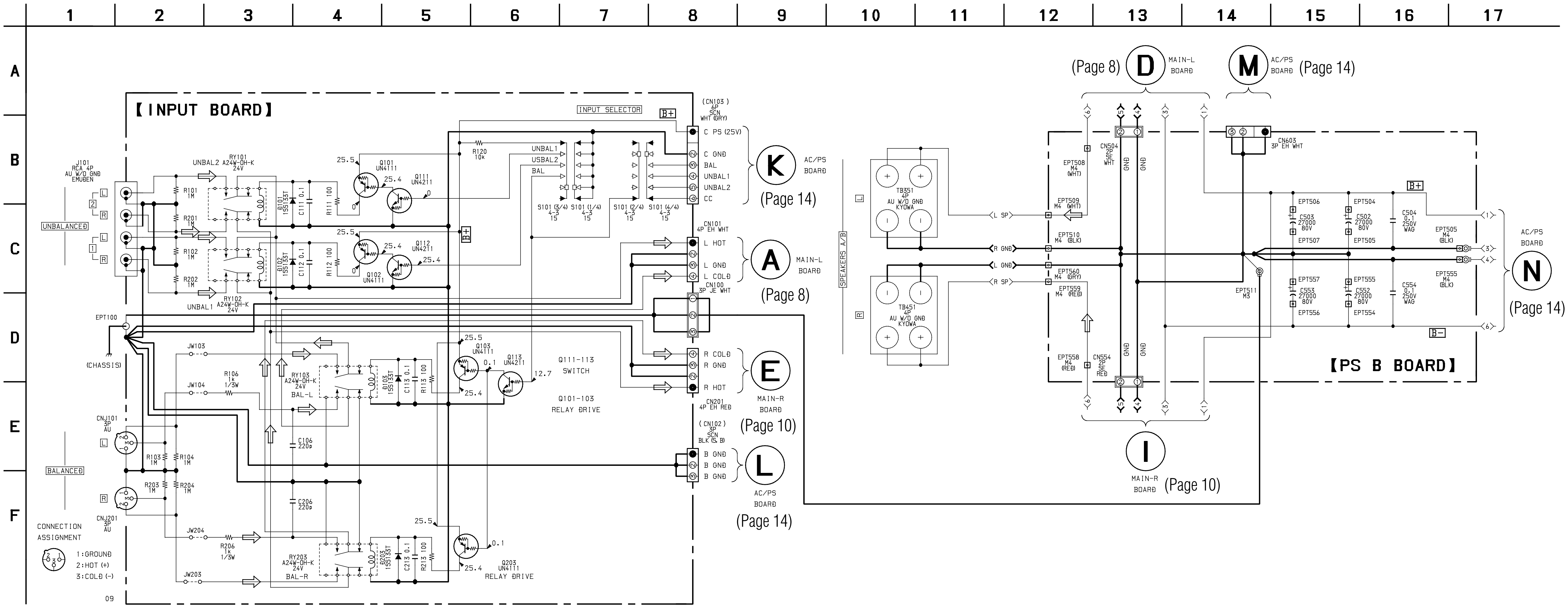
• Refer to page 7 for Circuit Boards Location.



• Semiconductor Location

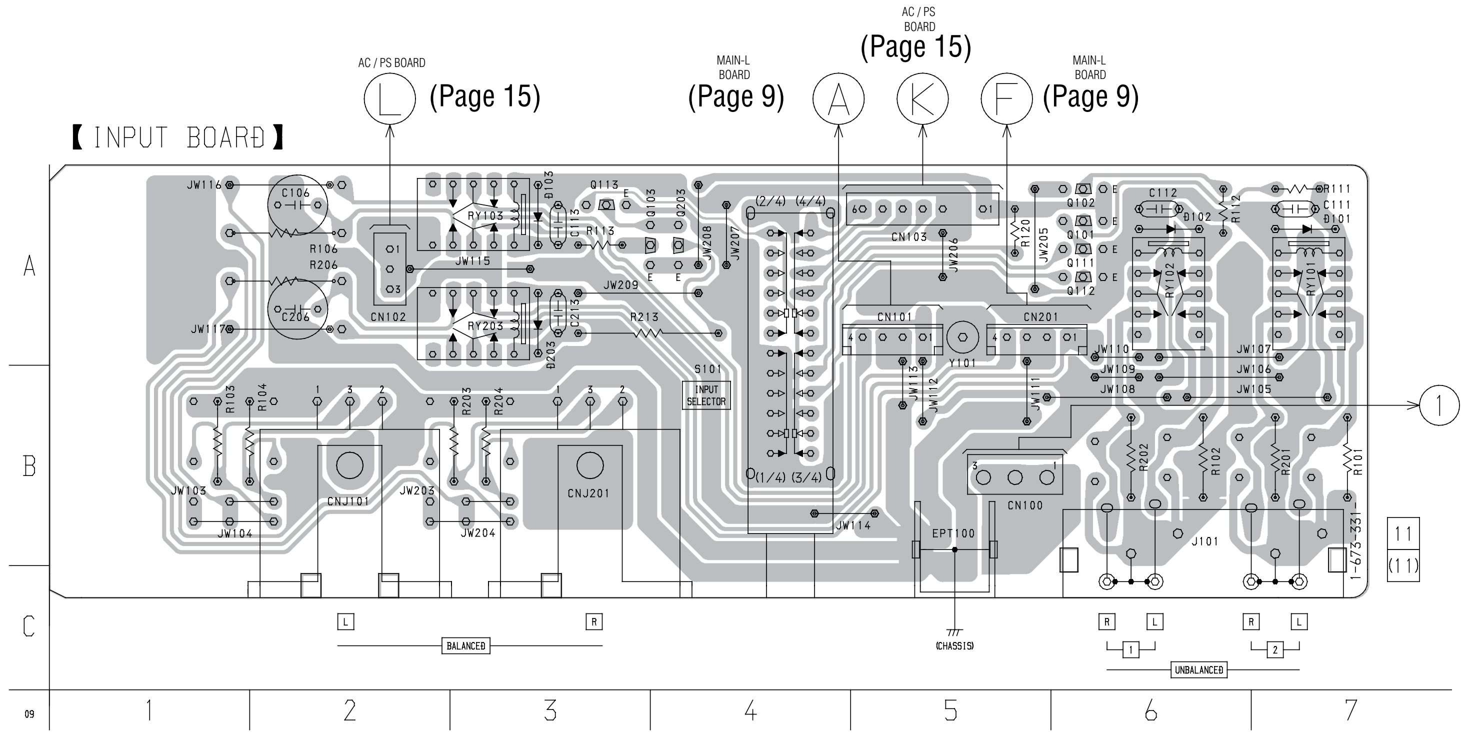
Ref. No	Location	Ref. No	Location
D401	C-9	Q405	A-11
D402	C-5	Q406	A-11
D403	C-5	Q407	A-9
D404	C-4	Q408	A-8
D405	C-4	Q409	A-6
D406	C-2	Q410	A-5
D407	C-2	Q411	A-4
D408	D-2	Q412	A-3
		Q413	A-2
IC401	D-12	Q414	C-3
		Q415	D-3
Q401	C-8	Q416	D-12
Q402	C-5	Q417	D-12
Q403	C-4	Q418	D-11
Q404	A-13	Q419	D-11

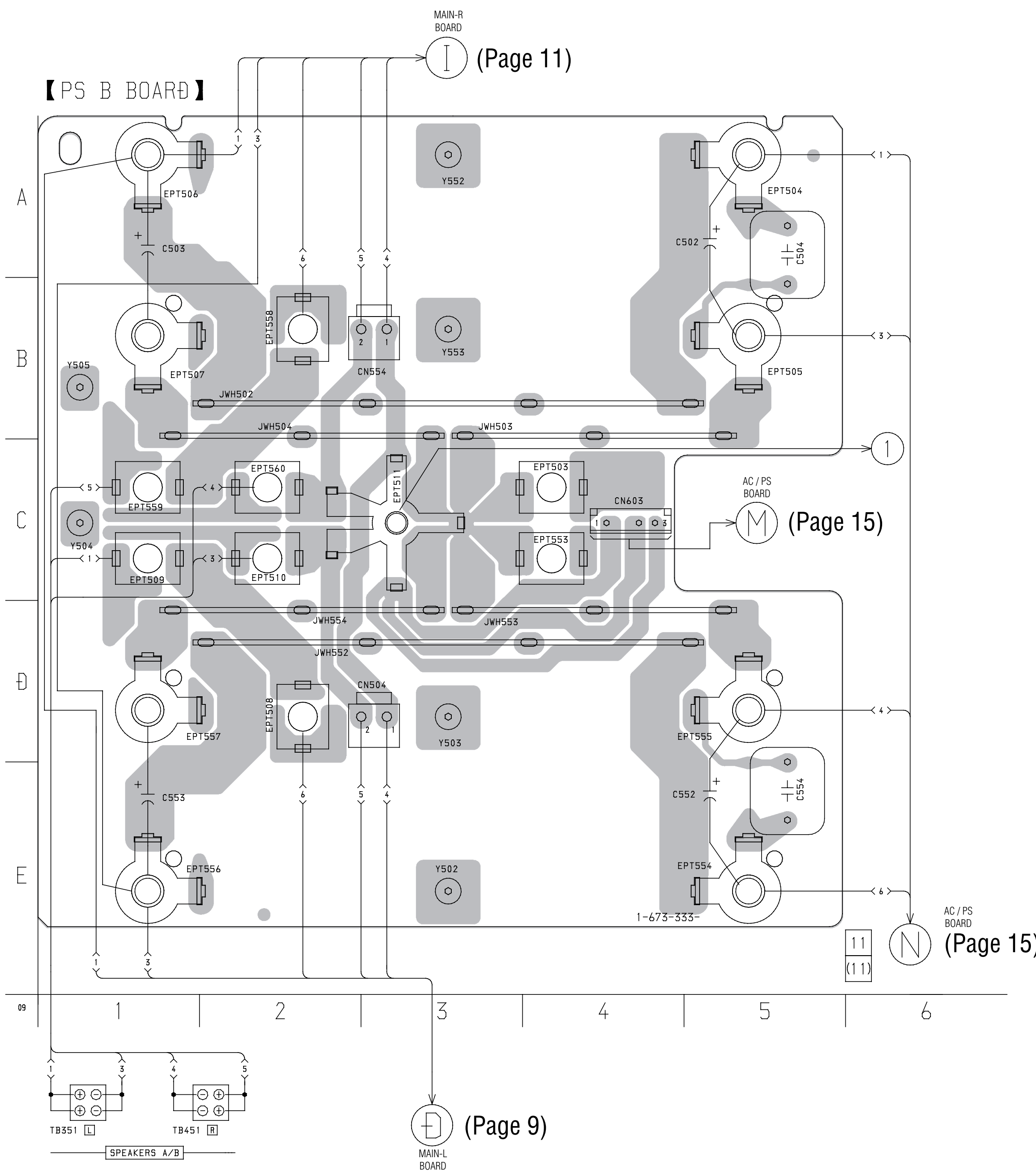
4-6. SCHEMATIC DIAGRAM – INPUT SECTION –



4-7. PRINTED WIRING BOARD – INPUT SECTION –

• Refer to page 7 for Circuit Boards Location.

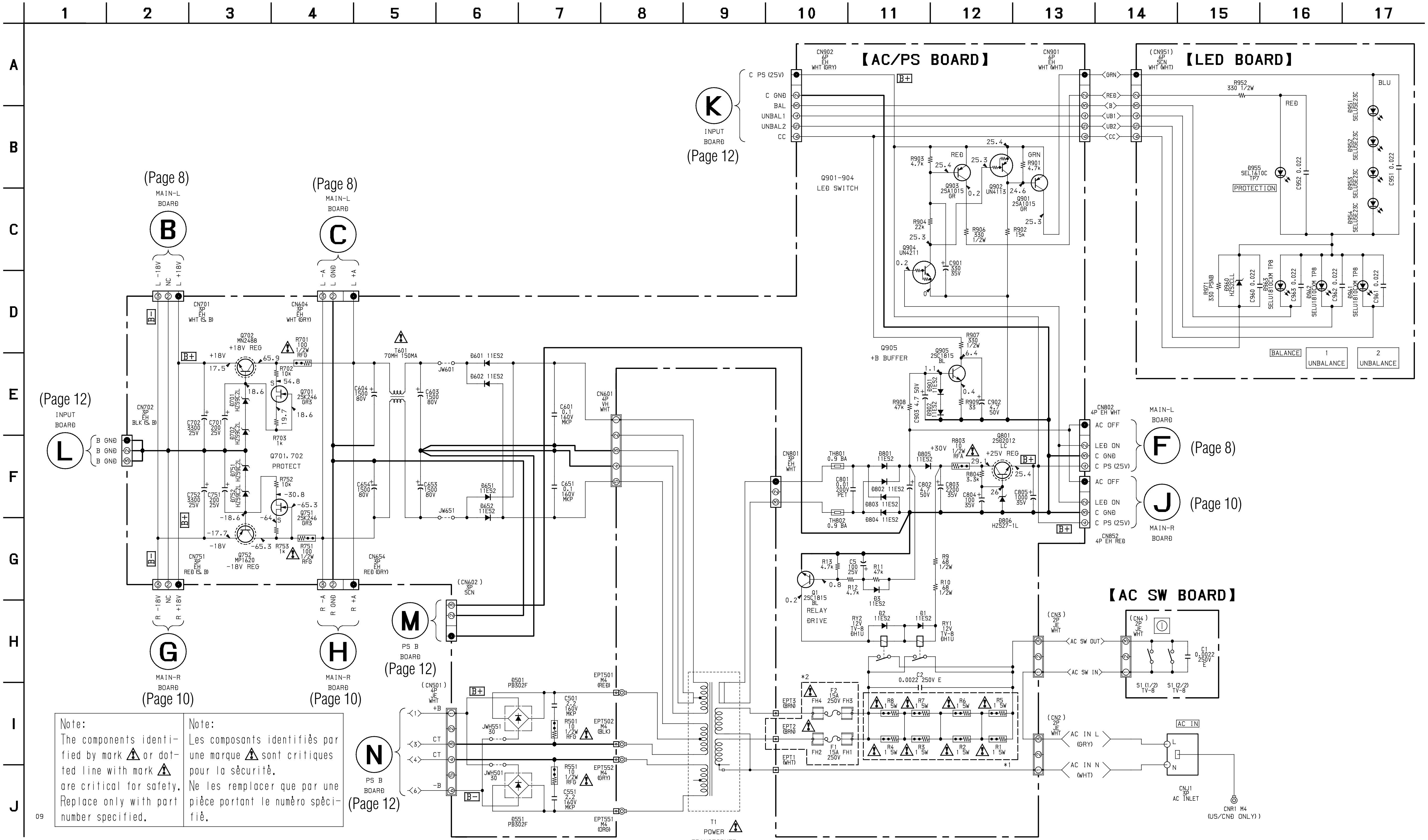




• **Semiconductor Location**

Ref. No	Location
D101	A-7
D102	A-6
D103	A-3
D203	A-3
Q101	A-6
Q102	A-6
Q103	A-4
Q111	A-6
Q112	A-6
Q113	A-3
Q203	A-4

4-8. SCHEMATIC DIAGRAM – POWER SECTION –



Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

*2

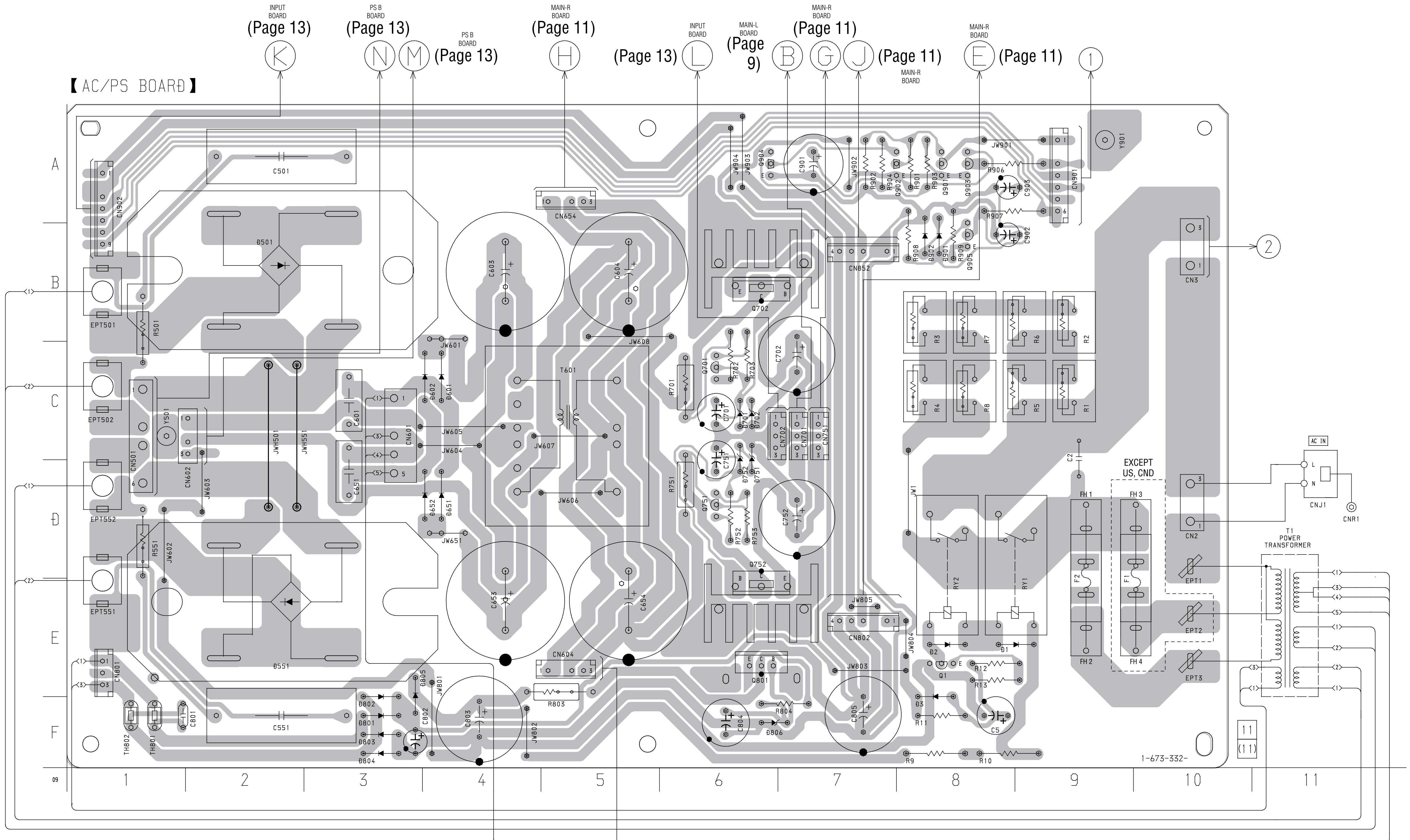
	US, CND	EXCEPT US, CND
F1	X	T4AL/250V
F2	15A/250V	T4AL/250V
FH1, 2	X	O
FH3, 4	O	O
EPT2	X	O

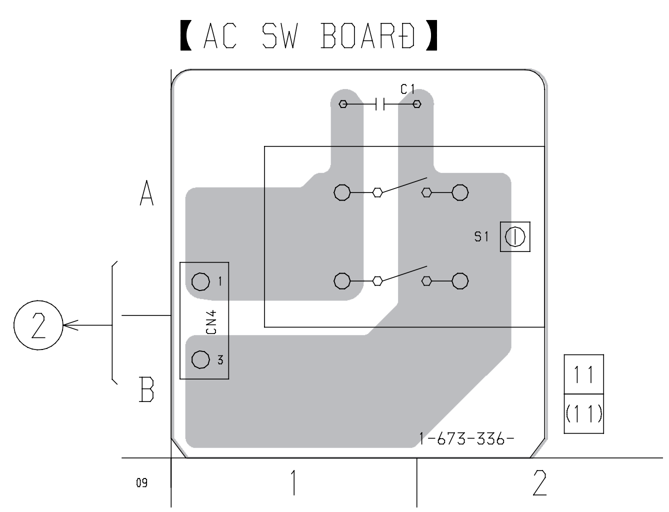
*1

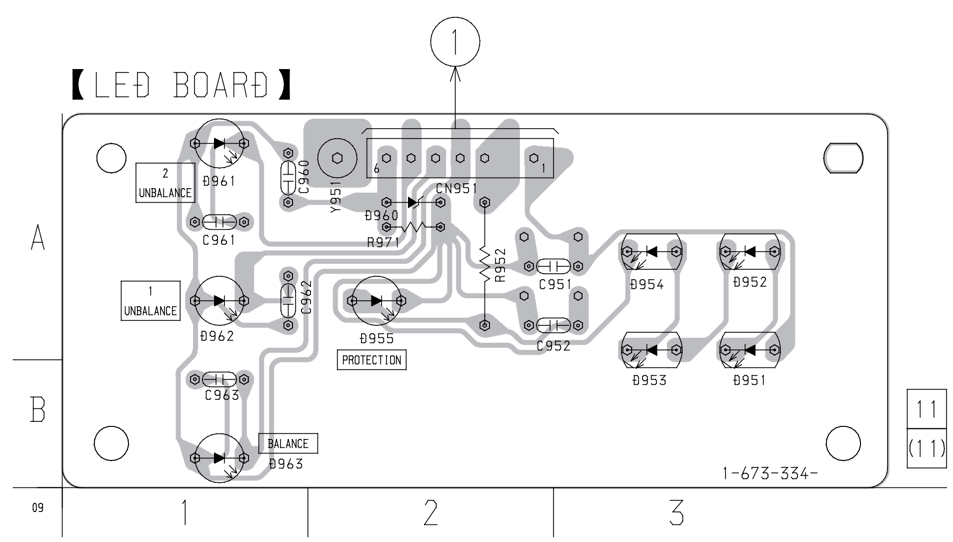
	US, CND	EXCEPT US, CND
R1-8	1/5W	2.2/5W

4-9. PRINTED WIRING BOARD – POWER SECTION –

• Refer to page 7 for Circuit Boards Location.







• Semiconductor Location

Ref. No	Location	Ref. No	Location
D1	E-8	D805	E-3
D2	E-8	D806	F-6
D3	E-8	D901	B-8
D501	B-2	D902	B-8
D551	E-2		
D601	C-4	Q1	E-8
D602	C-3	Q701	C-6
D651	C-4	Q702	B-6
D652	C-3	Q751	D-6
D701	C-6	Q752	E-6
D702	C-6	Q801	E-6
D751	C-6	Q901	A-8
D752	C-6	Q902	A-7
D801	F-3	Q903	A-8
D802	E-3	Q904	A-6
D803	F-3	Q905	B-8
D804	F-3		

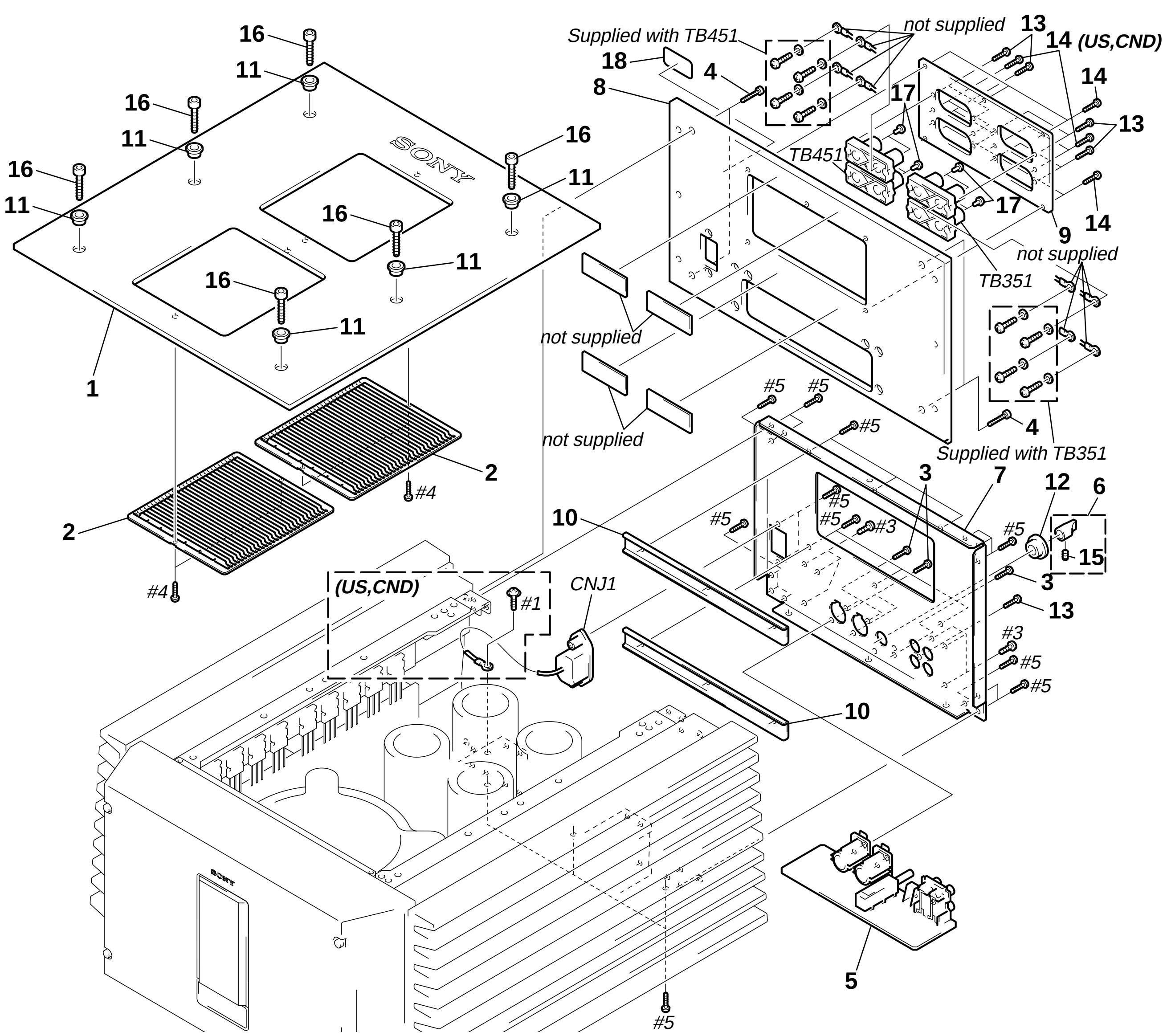
SECTION 5
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)
  ↑
  Cabinets color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

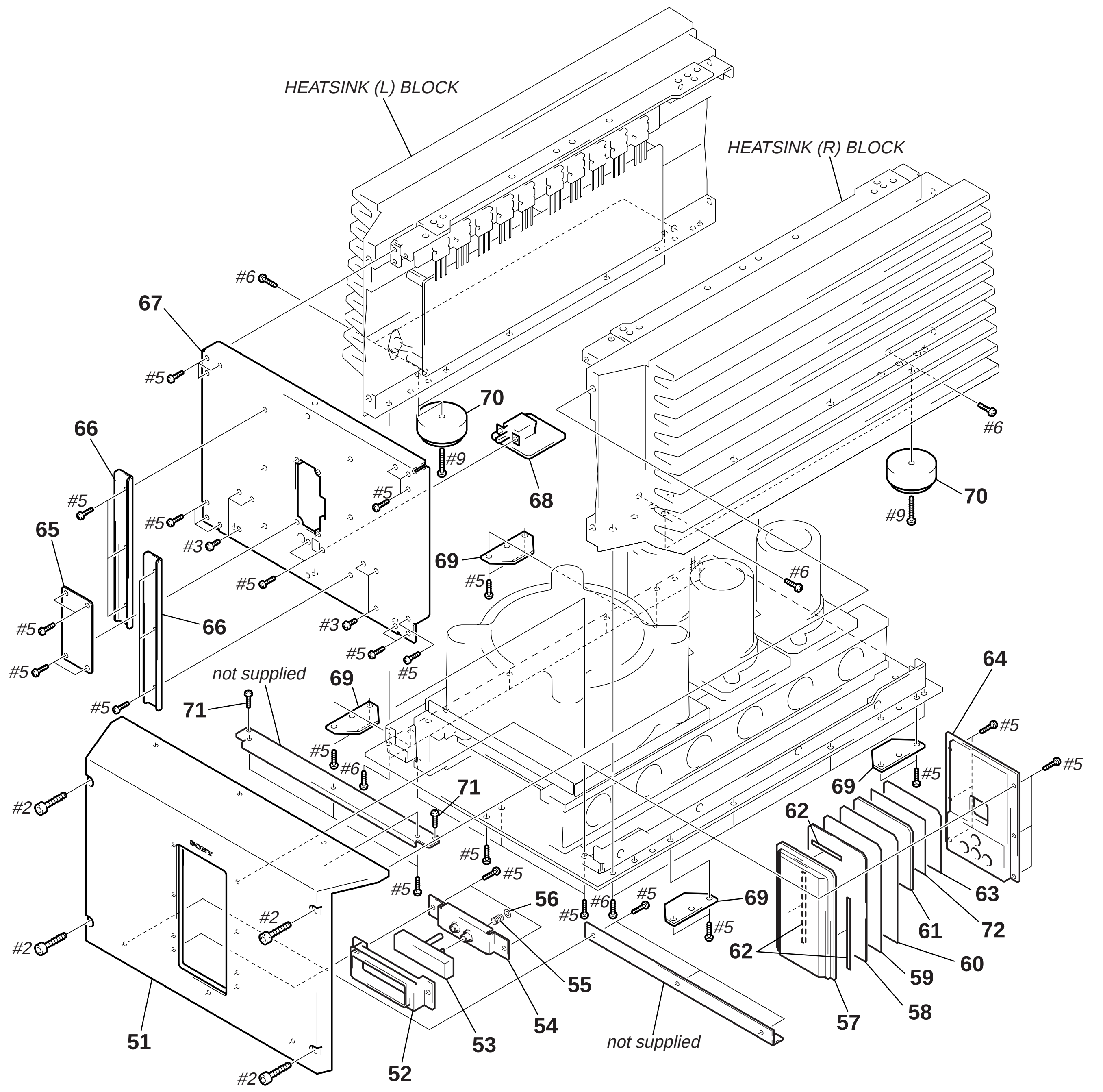
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. TOP AND BACK PANEL SECTION



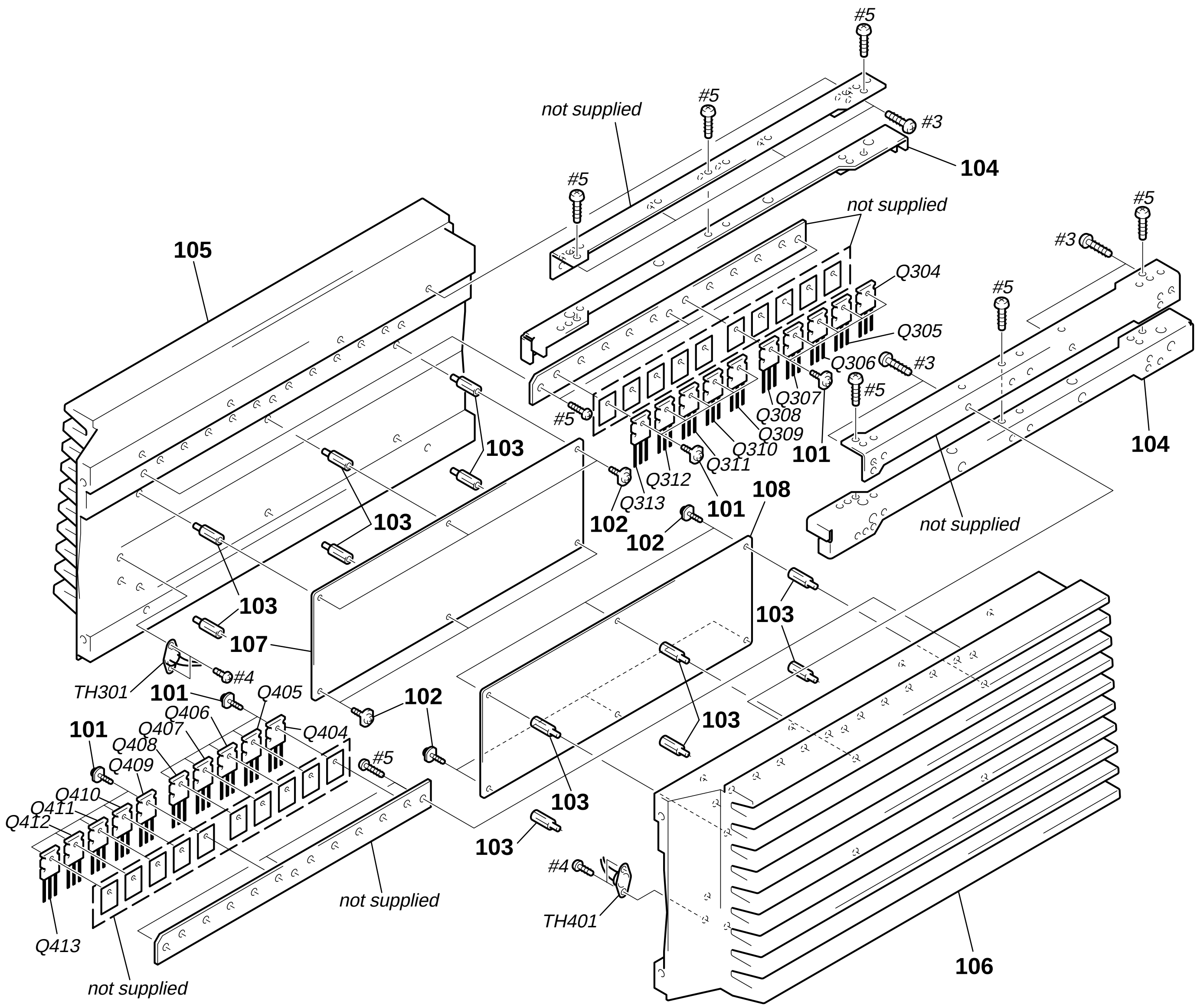
Ref. No.	Part No.	Description	Remark
1	4-217-753-01	PANEL, TOP	
2	4-935-228-11	GRILLE (A)	
3	3-703-685-41	SCREW (+BV 3X8)	
4	4-219-096-01	BOLT (M5X16), 6 SQUARE HOLE	
5	1-673-331-11	INPUT BOARD	
6	4-987-527-01	KNOB (VOL)	
7	4-217-756-11	PANEL (C), BACK	
8	4-217-757-11	PANEL (A), BACK (US,CND)	
8	4-217-757-22	PANEL (A), BACK (EXCEPT US,CND)	
9	4-218-397-11	BRACKET (SPEAKER T)(EXCEPT US,CND)	
9	4-218-397-21	BRACKET (SPEAKER T)(US,CND)	
10	4-217-770-01	REINFORCEMENT (R)	
11	4-217-765-01	ESCUTCHEON	
12	4-219-878-01	ESCUTCHEON (KNOB)	
13	4-974-510-01	SCREW (+BV 3X8 CU)	
14	4-911-049-21	SCREW (3X8)	
15	3-701-505-00	SET SCREW, DOUBLE POINT 3X3	
16	4-219-097-01	BOLT (M4X12), 6 SQUARE HOLE	
17	3-696-090-11	RIVET, NYLON	
* 18	3-703-044-11	LABEL, CAUTION (US,CND)	
CNJ1	1-580-375-41	INLET 3P	
TB351	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)	
TB351	1-694-541-21	TERMINAL BOARD (SP)(US,CND)	
TB451	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)	
TB451	1-694-541-21	TERMINAL BOARD (SP)(US,CND)	

5-2. FRONT PANEL SECTION



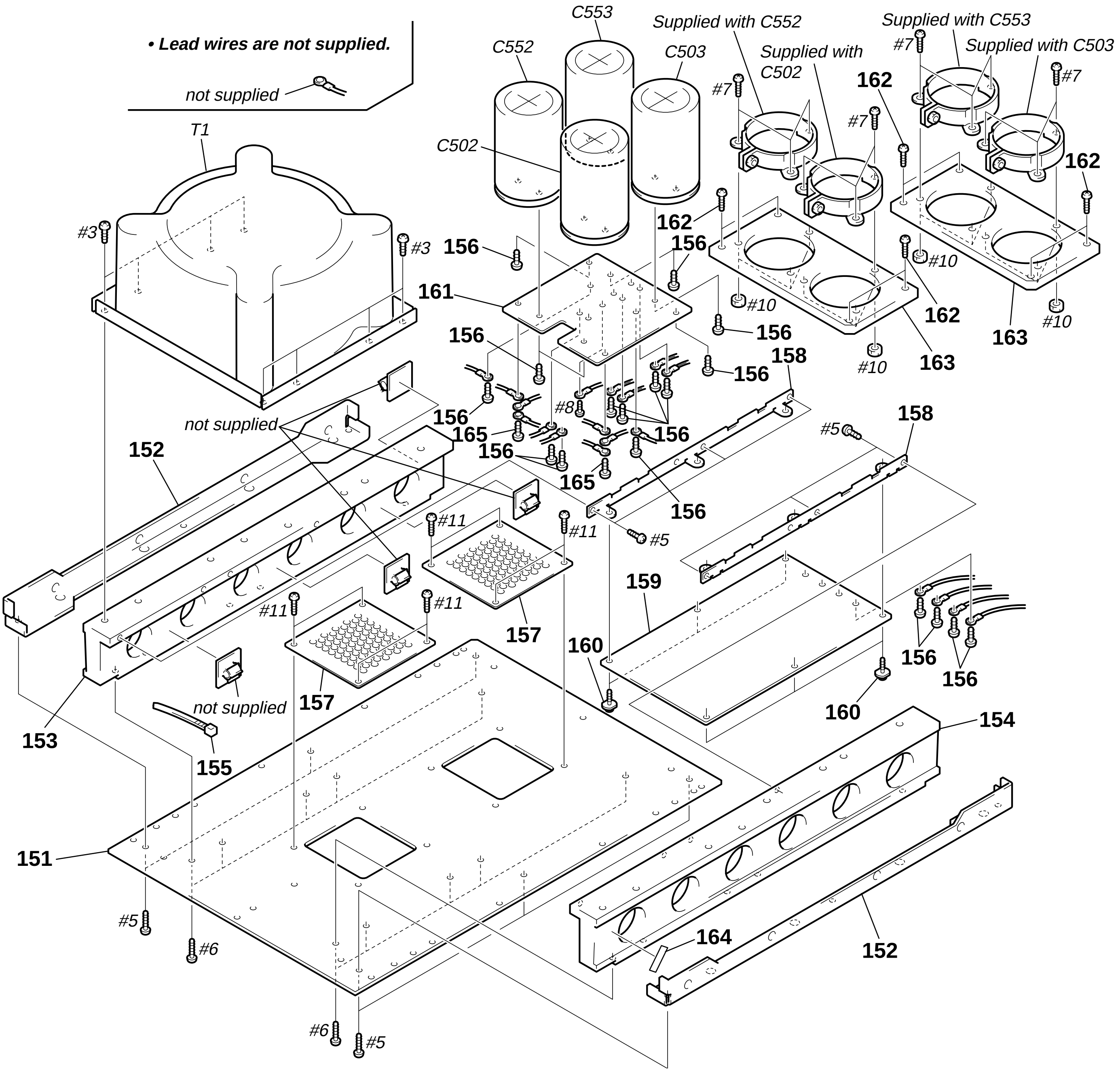
Ref. No.	Part No.	Description	Remark
51	4-217-750-01	PANEL, FRONT	
52	4-217-782-01	ESCUTCHEON (POWER BUTTON)	
53	X-4951-184-1	BUTTON ASSY, POWER	
54	X-4951-185-1	BRACKET (POWER BUTTON) ASSY	
* 55	4-880-426-00	SPRING, COMPRESSION	
56	4-862-338-00	RING, STOPPER	
57	4-217-777-01	PLATE (FRONT), INDICATION	
58	4-217-771-01	PLATE (HALF MIRROR),INDICATION	
59	4-217-772-01	PLATE (MASK), INDICATION (BLACK)	
60	4-217-778-01	PLATE (FILTER), INDICATION (MILKY WHITE)	
61	4-218-442-01	PLATE (BASE 2), INDICATION (WHITE)	
62	4-221-068-01	PLATE (SPACER), INDICATION	
63	4-218-441-01	PLATE (FILTER 2), INDICATION (MILKY WHITE)	
64	4-217-779-01	PLATE (BASE), INDICATION	
65	1-673-334-11	LED BOARD	
66	4-217-769-01	REINFORCEMENT (F)	
67	4-217-755-01	PANEL, SUB	
68	1-673-336-11	AC-SW BOARD	
69	4-218-443-01	BRACKET (FOOT)	
70	X-4942-178-1	FOOT ASSY	
71	4-911-049-21	SCREW (3X8)	
72	4-222-564-01	PLATE (FILTER C), INDICATION (ORANGE)	

5-3. HEAT SINK SECTION



Ref. No.	Part No.	Description	Remark
101	X-4952-038-1	+B 3X16 (CU) ASSY	
102	X-4944-262-1	SCREW(3X8)ASSY, BARREL W +BVTT	
103	4-217-766-01	BOSS	
104	4-217-760-01	FRAME (F/R)	
105	4-217-751-01	HEAT SINK (L)	
106	4-217-752-01	HEAT SINK (R)	
107	A-4426-211-A	MAIN-L BAORD, COMPLETE (US,CND)	
107	A-4426-215-A	MAIN-L BOARD, COMPLETE (EXCEPT US,CND)	
108	A-4426-212-A	MAIN-R BOARD, COMPLETE (US,CND)	
108	A-4426-216-A	MAIN-R BOARD, COMPLETE (EXCEPT US,CND)	
Q304	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q305	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q306	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q307	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q308	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q309	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q310	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q311	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q312	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q313	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q404	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q405	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q406	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q407	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q408	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q409	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q410	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q411	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q412	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q413	8-729-018-13	TRANSISTOR 2SJ201A-Y	
TH301	1-576-080-11	THERMOSTAT	
TH401	1-576-080-11	THERMOSTAT	

5-4. BOTTOM PLATE AND FRAME SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
151	4-217-754-01	PLATE, BOTTOM	
152	4-217-760-01	FRAME (F/R)	
153	4-217-761-01	FRAME (L)	
154	4-217-762-01	FRAME (R)	
155	3-655-653-21	BAND (TAITON), BINDING	
* 156	4-931-964-01	SCREW (M4X6)	
* 157	1-641-950-11	BOTTOM LID BOARD	
158	4-217-763-01	BRACKET (PC-PS)	
159	A-4426-214-A	AC/PS BOARD, COMPLETE (US,CND)	
159	A-4426-218-A	AC/PS BOARD, COMPLETE (EXCEPT US,CND)	
160	X-4944-262-1	SCREW(3X8)ASSY, BARREL W +BVTT	

Ref. No.	Part No.	Description	Remark
161	1-673-333-11	PS-B BOARD	
162	4-965-658-01	SCREW (4X16)	
163	4-218-396-01	HOLDER (BASE C)	
164	3-831-441-11	CUSHION (F)	
* 165	4-931-964-11	SCREW (M4X8)	
C502	1-128-999-11	CAP, ELECT 27000MF	
C503	1-128-999-11	CAP, ELECT 27000MF	
C552	1-128-999-11	CAP, ELECT 27000MF	
C553	1-128-999-11	CAP, ELECT 27000MF	
⚠T1	1-433-767-11	TRANSFORMER, POWER (US,CND)	
⚠T1	1-433-768-11	TRANSFORMER, POWER (EXCEPT US,CND)	

SECTION 6
ELECTRICAL PARTS LIST

AC-SW | AC/PS

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μ A..., uPA...: μ PA..., uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- Abbreviation
  CND : Canadian model

Ref. No.	Part No.	Description			Remark
	1-673-336-11	AC-SW BOARD			
		**********			
		< CAPACITOR >			
C1	1-113-920-11	CERAMIC	0.0022uF	20%	250V
		< SWITCH >			
S1	1-771-187-11	SWITCH, AC POWER (⏻)			

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Ref. No.	Part No.	Description			Remark
	A-4426-214-A	AC/PS BOARD, COMPLETE (US,CND)			
		**********************			
	A-4426-218-A	AC/PS BOARD, COMPLETE (EXCEPT US, CND)			
		**********************			
	1-533-798-11	HOLDER, FUSE			
	1-535-476-11	TERMINAL			
		< CAPACITOR >			
C2	1-113-920-11	CERAMIC	0.0022uF	20%	250V
C5	1-119-800-11	ELECT	100uF	20%	25V
C501	1-136-880-11	FILM	2.2uF	10%	160V
C551	1-136-880-11	FILM	2.2uF	10%	160V
C601	1-136-960-11	FILM	0.1uF	10%	160V
C603	1-131-657-11	CAPACITOR	1500uF	20%	80V
C604	1-131-657-11	CAPACITOR	1500uF	20%	80V
C651	1-136-960-11	FILM	0.1uF	10%	160V
C653	1-131-657-11	CAPACITOR	1500uF	20%	80V
C654	1-131-657-11	CAPACITOR	1500uF	20%	80V
C701	1-126-024-11	ELECT	220uF	20%	25V
C702	1-126-029-11	ELECT	3200uF	20%	25V
C751	1-126-024-11	ELECT	220uF	20%	25V
C752	1-126-029-11	ELECT	3200uF	20%	25V
C801	1-104-993-11	FILM	0.01uF	5%	200V
C802	1-119-823-11	ELECT	4.7uF	20%	50V
C803	1-119-815-21	ELECT	2200uF	20%	35V
C804	1-119-810-11	ELECT	100uF	20%	35V
C805	1-119-814-21	ELECT	1000uF	20%	35V
C901	1-119-830-11	ELECT	330uF	20%	35V
C902	1-119-823-11	ELECT	4.7uF	20%	50V
C903	1-119-823-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
* CN601	1-766-920-11	PIN, CONNECTOR 4P			

Ref. No.	Part No.	Description	Remark
CN604	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
CN654	1-691-765-31	PLUG (MICRO CONNECTOR) 3P	
* CN701	1-564-506-11	PLUG, CONNECTOR 3P	
* CN702	1-564-506-11	PLUG, CONNECTOR 3P	
* CN751	1-564-506-11	PLUG, CONNECTOR 3P	
* CN801	1-564-506-11	PLUG, CONNECTOR 3P	
CN802	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN852	1-691-766-31	PLUG (MICRO CONNECTOR) 4P	
CN901	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
CN902	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
		< DIODE >	
D1	8-719-024-99	DIODE 11ES2-NTA2B	
D2	8-719-024-99	DIODE 11ES2-NTA2B	
D3	8-719-024-99	DIODE 11ES2-NTA2B	
D501	8-719-072-90	DIODE PB302F	
D551	8-719-072-90	DIODE PB302F	
D601	8-719-024-99	DIODE 11ES2-NTA2B	
D602	8-719-024-99	DIODE 11ES2-NTA2B	
D651	8-719-024-99	DIODE 11ES2-NTA2B	
D652	8-719-024-99	DIODE 11ES2-NTA2B	
D701	8-719-934-64	DIODE HZS9C2LT2	
D702	8-719-934-64	DIODE HZS9C2LT2	
D751	8-719-934-64	DIODE HZS9C2LT2	
D752	8-719-934-64	DIODE HZS9C2LT2	
D801	8-719-024-99	DIODE 11ES2-NTA2B	
D802	8-719-024-99	DIODE 11ES2-NTA2B	
D803	8-719-024-99	DIODE 11ES2-NTA2B	
D804	8-719-024-99	DIODE 11ES2-NTA2B	
D805	8-719-024-99	DIODE 11ES2-NTA2B	
D806	8-719-935-20	DIODE HZS27-1LT2	
D901	8-719-024-99	DIODE 11ES2-NTA2B	
D902	8-719-024-99	DIODE 11ES2-NTA2B	
		< FUSE >	
⚠F1	1-532-350-11	FUSE, TIME-LAG (T4AL/250V)(EXCEPT US,CND)	
⚠F2	1-576-379-11	FUSE (15A/250V)(US,CND)	
⚠F2	1-532-350-11	FUSE, TIME-LAG (T4AL/250V)(EXCEPT US,CND)	
		< TRANSISTOR >	
Q1	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q701	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q702	8-749-010-25	IC MN2488-OPY-M	
Q751	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q752	8-749-010-26	IC MP1620-OPY-M	

AC/PS　INPUT

Ref. No.	Part No.	Description			Remark
Q801	8-729-018-60	TRANSISTOR	2SD2012-LC		
Q901	8-729-201-53	TRANSISTOR	2SA1015-GR		
Q902	8-729-422-96	TRANSISTOR	UN4113-TA		
Q903	8-729-201-53	TRANSISTOR	2SA1015-GR		
Q904	8-729-900-80	TRANSISTOR	UN4211-TA		
Q905	8-729-281-54	TRANSISTOR	2SC1815-BL		
		< RESISTOR >			
⚠R1	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R1	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R2	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R2	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R3	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R3	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R4	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R4	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R5	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R5	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R6	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R6	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R7	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R7	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
⚠R8	1-217-780-11	FUSIBLE	1	5%	5W F (US,CND)
⚠R8	1-217-781-11	FUSIBLE	2.2	5%	5W F (EXCEPT US, CND)
R9	1-249-645-11	CARBON	68	5%	1/2W
R10	1-249-645-11	CARBON	68	5%	1/2W
R11	1-259-207-21	CARBON	47K	5%	1/4W
R12	1-259-183-11	CARBON	4.7K	5%	1/4W
R13	1-259-183-11	CARBON	4.7K	5%	1/4W
⚠R501	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R551	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R701	1-219-022-11	FUSIBLE	100	5%	1/2W
R702	1-259-191-21	CARBON	10K	5%	1/4W
R703	1-259-167-21	CARBON	1K	5%	1/4W
⚠R751	1-219-022-11	FUSIBLE	100	5%	1/2W
R752	1-259-191-21	CARBON	10K	5%	1/4W
R753	1-259-167-21	CARBON	1K	5%	1/4W
⚠R803	1-202-937-31	FUSIBLE	10	5%	1/2W
R804	1-259-179-21	CARBON	3.3K	5%	1/4W
R901	1-259-183-11	CARBON	4.7K	5%	1/4W
R902	1-259-195-11	CARBON	15K	5%	1/4W
R903	1-259-183-11	CARBON	4.7K	5%	1/4W
R904	1-259-199-11	CARBON	22K	5%	1/4W
R906	1-259-292-11	CARBON	330	5%	1/2W
R907	1-259-292-11	CARBON	330	5%	1/2W
R908	1-259-207-21	CARBON	47K	5%	1/4W
R909	1-249-887-11	CARBON	33	5%	1/4W
		< RELAY >			
RY1	1-515-999-11	RELAY, POWER			
RY2	1-515-999-11	RELAY, POWER			
		< TRANSFORMER >			
⚠T601	1-427-648-11	TRANSFORMER (CHOKE)			
		< THERMISTOR >			
TH801	1-801-829-11	THERMISTOR, POSITIVE			
TH802	1-801-829-11	THERMISTOR, POSITIVE			

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Ref. No.	Part No.	Description			Remark
	1-673-331-11	INPUT BOARD			
		**********			
	4-946-336-01	BRACKET (GROUND)			
		< CAPACITOR >			
C106	1-125-850-21	FILM	220PF	5%	50V
C111	1-136-165-00	FILM	0.1uF	5%	50V
C112	1-136-165-00	FILM	0.1uF	5%	50V
C113	1-136-165-00	FILM	0.1uF	5%	50V
C206	1-125-850-21	FILM	220PF	5%	50V
C213	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
* CN101	1-564-507-11	PLUG, CONNECTOR 4P			
* CN201	1-564-507-11	PLUG, CONNECTOR 4P			
		< JACK >			
CNJ101	1-766-803-11	CONNECTOR (CANON)(BALANCE L)			
CNJ201	1-766-803-11	CONNECTOR (CANON)(BALANCE R)			
		< DIODE >			
D101	8-719-911-19	DIODE 1SS119-25			
D102	8-719-911-19	DIODE 1SS119-25			
D103	8-719-911-19	DIODE 1SS119-25			
D203	8-719-911-19	DIODE 1SS119-25			
		< JACK >			
J101	1-785-547-11	JACK, PIN (UNBALANCE 1,2 L/R)			
		< TRANSISTOR >			
Q101	8-729-422-57	TRANSISTOR	UN4111		
Q102	8-729-422-57	TRANSISTOR	UN4111		
Q103	8-729-422-57	TRANSISTOR	UN4111		
Q111	8-729-900-80	TRANSISTOR	UN4211-TA		
Q112	8-729-900-80	TRANSISTOR	UN4211-TA		
Q113	8-729-900-80	TRANSISTOR	UN4211-TA		
Q203	8-729-422-57	TRANSISTOR	UN4111		

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-249-995-11	CARBON	1M	5%	1/4W
R102	1-249-995-11	CARBON	1M	5%	1/4W
R103	1-249-995-11	CARBON	1M	5%	1/4W
R104	1-249-995-11	CARBON	1M	5%	1/4W
R106	1-249-210-11	CARBON	1K	5%	1/3W
R111	1-259-404-11	CARBON	100	5%	1/6W
R112	1-259-404-11	CARBON	100	5%	1/6W
R113	1-259-404-11	CARBON	100	5%	1/6W
R120	1-259-452-11	CARBON	10K	5%	1/6W
R201	1-249-995-11	CARBON	1M	5%	1/4W
R202	1-249-995-11	CARBON	1M	5%	1/4W
R203	1-249-995-11	CARBON	1M	5%	1/4W
R204	1-249-995-11	CARBON	1M	5%	1/4W
R206	1-249-210-11	CARBON	1K	5%	1/3W
R213	1-259-404-11	CARBON	100	5%	1/6W
		< RELAY >			
RY101	1-755-062-11	RELAY			
RY102	1-755-062-11	RELAY			
RY103	1-755-062-11	RELAY			
RY203	1-755-062-11	RELAY			
		< SWITCH >			
S101	1-771-565-11	SWITCH, ROTARY (INPUT SELECTOR)			

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Ref. No.	Part No.	Description			Remark
	1-673-334-11	LED BOARD			
		********			
		< CAPACITOR >			
C951	1-136-157-00	FILM	0.022uF	5%	50V
C952	1-136-157-00	FILM	0.022uF	5%	50V
C960	1-136-157-00	FILM	0.022uF	5%	50V
C961	1-136-157-00	FILM	0.022uF	5%	50V
C962	1-136-157-00	FILM	0.022uF	5%	50V
C963	1-136-157-00	FILM	0.022uF	5%	50V
		< DIODE >			
D951	8-719-069-45	DIODE SELU5E23C-TP15			
D952	8-719-069-45	DIODE SELU5E23C-TP15			
D953	8-719-069-45	DIODE SELU5E23C-TP15			
D954	8-719-069-45	DIODE SELU5E23C-TP15			
D955	8-719-075-81	DIODE SEL1610C-TP8			
D960	8-719-985-41	DIODE HZS2CLL			
D961	8-719-075-82	DIODE SELU1810CXM-TP8 (UNBALANCE 1)			
D962	8-719-075-82	DIODE SELU1810CXM-TP8 (UNBALANCE 2)			
D963	8-719-075-82	DIODE SELU1810CXM-TP8 (BALANCE)			
		< RESISTOR >			
R952	1-259-292-11	CARBON	330	5%	1/2W
R971	1-259-416-11	CARBON	330	5%	1/6W

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Ref. No.	Part No.	Description			Remark
	A-4426-211-A	MAIN-L BOARD, COMPLETE (US,CND)			
		******************************			
	A-4426-215-A	MAIN-L BOARD, COMPLETE (EXCEPT US, CND)			
		**************************************			
	7-682-148-15	SCREW, TR			
		< CAPACITOR >			
C300	1-125-850-21	FILM	220PF	5%	50V
C301	1-125-850-21	FILM	220PF	5%	50V
C305	1-117-775-31	FILM	0.1uF	10%	250V
C306	1-117-775-31	FILM	0.1uF	10%	250V
C307	1-127-741-41	ELECT	0.047uF	10%	250V
C308	1-128-971-11	ELECT	220uF	20%	50V
C309	1-128-971-11	ELECT	220uF	20%	50V
C310	1-117-775-31	FILM	0.1uF	10%	250V
C311	1-117-775-31	FILM	0.1uF	10%	250V
C314	1-117-775-31	FILM	0.1uF	10%	250V
C315	1-128-971-11	ELECT	220uF	20%	50V
C316	1-110-512-51	FILM	1uF	10%	50V
C317	1-110-512-51	FILM	1uF	10%	50V
C318	1-125-845-21	FILM	47PF	10%	50V
C319	1-125-845-21	FILM	47PF	10%	50V
C321	1-127-741-41	ELECT	0.047uF	10%	250V
C322	1-127-741-41	ELECT	0.047uF	10%	250V
C323	1-117-775-31	FILM	0.1uF	10%	250V
C324	1-117-775-31	FILM	0.1uF	10%	250V
C327	1-119-823-11	ELECT	4.7uF	20%	50V
C328	1-125-850-21	FILM	220PF	5%	50V
C329	1-136-157-00	FILM	0.022uF	5%	50V
C330	1-110-394-21	ELECT	220uF	20%	63V
C331	1-136-157-00	FILM	0.022uF	5%	50V
C332	1-136-157-00	FILM	0.022uF	5%	50V
C333	1-119-800-11	ELECT	100uF	20%	25V
C334	1-119-800-11	ELECT	100uF	20%	25V
C337	1-126-026-11	ELECT	470uF	20%	25V
C338	1-126-026-11	ELECT	470uF	20%	25V
		< CONNECTOR >			
* CN306	1-564-505-11	PLUG, CONNECTOR 2P			
		< COMPOSITION CIRCUIT BLOCK >			
CP301	1-418-105-11	AMPLIFIER, UNIT			
		< DIODE >			
D301	8-719-310-61	DIODE SEL1510C-D			
D302	8-719-300-04	DIODE SV-04			
D303	8-719-300-04	DIODE SV-04			
D304	8-719-300-04	DIODE SV-04			
D305	8-719-300-04	DIODE SV-04			
D306	8-719-024-99	DIODE 11ES2-NTA2B			
D307	8-719-024-99	DIODE 11ES2-NTA2B			
D308	8-719-024-99	DIODE 11ES2-NTA2B			
		< IC >			
IC301	8-759-579-36	IC OPA2132P			

MAIN-L

Ref. No.	Part No.	Description			Remark
		< BUS BAR >			
JWH301	1-569-232-11	BAR, BUS			
JWH302	1-770-108-11	BAR, BUS 7P			
* JWH303	1-566-940-11	BUS BAR 6P			
		< COIL >			
* L301	1-428-071-11	COIL, AIR-CORE			
		< IC LINK >			
PS301	8-759-111-68	IC UPC1237HA			
		< TRANSISTOR >			
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q302	8-729-018-19	TRANSISTOR	2SK2013-Y		
Q303	8-729-018-21	TRANSISTOR	2SJ313-Y		
Q304	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q305	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q306	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q307	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q308	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q309	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q310	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q311	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q312	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q313	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q314	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q315	8-729-140-82	TRANSISTOR	2SA988-PAFAEA		
Q316	8-729-201-53	TRANSISTOR	2SA1015-GR		
Q317	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q318	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q319	8-729-201-53	TRANSISTOR	2SA1015-GR		
		< RESISTOR >			
R300	1-259-525-11	CARBON	56	2%	1W
R301	1-259-595-61	CARBON	47K	1%	1/2W
R302	1-259-595-61	CARBON	47K	1%	1/2W
R303	1-259-668-61	CARBON	470	2%	1W
R304	1-259-668-61	CARBON	470	2%	1W
R305	1-259-668-61	CARBON	470	2%	1W
R306	1-259-525-11	CARBON	56	2%	1W
R307	1-259-183-11	CARBON	4.7K	5%	1/4W
R308	1-259-171-21	CARBON	1.5K	5%	1/4W
⚠R309	1-202-954-41	FUSIBLE	470	5%	1/2W
⚠R310	1-202-954-41	FUSIBLE	470	5%	1/2W
⚠R312	1-202-951-41	FUSIBLE	150	5%	1/2W
⚠R313	1-202-951-41	FUSIBLE	150	5%	1/2W
⚠R315	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R316	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R317	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R318	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R319	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R320	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R321	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R322	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R323	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R324	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠R325	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R326	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R327	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R328	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R329	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R330	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R331	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R332	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R333	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R334	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R335	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R336	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R337	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R338	1-202-937-41	FUSIBLE	10	5%	1/2W
R339	1-259-749-61	CARBON	10	2%	2W
⚠R340	1-202-954-11	FUSIBLE	470	5%	1/2W
R341	1-259-191-21	CARBON	10K	5%	1/4W
R342	1-249-959-11	CARBON	33K	5%	1/4W
R343	1-259-175-11	CARBON	2.2K	5%	1/4W
R344	1-259-171-21	CARBON	1.5K	5%	1/4W
R345	1-249-959-11	CARBON	33K	5%	1/4W
R346	1-249-883-11	CARBON	22	5%	1/4W
R347	1-259-227-11	CARBON	330K	5%	1/4W
R348	1-259-223-11	CARBON	220K	5%	1/4W
R349	1-249-953-11	CARBON	18K	5%	1/4W
R350	1-259-207-21	CARBON	47K	5%	1/4W
R351	1-259-219-11	CARBON	150K	5%	1/4W
R352	1-249-945-11	CARBON	8.2K	5%	1/4W
R353	1-214-945-00	METAL	2.2M	1%	1/2W
⚠R355	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R356	1-202-937-41	FUSIBLE	10	5%	1/2W
R357	1-259-167-21	CARBON	1K	5%	1/4W
R358	1-249-945-11	CARBON	8.2K	5%	1/4W
R359	1-249-945-11	CARBON	8.2K	5%	1/4W
R360	1-259-111-11	CARBON	4.7	5%	1/4W
R361	1-259-111-11	CARBON	4.7	5%	1/4W
R362	1-249-210-11	CARBON	1K	5%	1/3W
		< VARIABLE RESISTOR >			
RV301	1-224-489-11	RES, ADJ, METAL FILM 2.2K (BIAS L)			
		< RELAY >			
RY301	1-755-310-11	RELAY			
RY302	1-755-310-11	RELAY			
		< TEST PIN >			
* TP301	3-657-235-00	POINT, TEST			
* TP302	3-657-235-00	POINT, TEST			
* TP303	3-657-235-00	POINT, TEST			
* TP304	3-657-235-00	POINT, TEST			
* TP305	3-657-235-00	POINT, TEST			
* TP306	3-657-235-00	POINT, TEST			
* TP307	3-657-235-00	POINT, TEST			

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
	A-4426-212-A	MAIN-R BOARD, COMPLETE (US,CND)			
		******************************			
	A-4426-216-A	MAIN-R BOARD, COMPLETE (EXCEPT US, CND)			
		**************************************			
*	3-657-235-00	POINT, TEST			
	7-682-148-15	SCREW, TR			
		< CAPACITOR >			
C400	1-125-850-21	FILM	220PF	5%	50V
C401	1-125-850-21	FILM	220PF	5%	50V
C405	1-117-775-31	FILM	0.1uF	10%	250V
C406	1-117-775-31	FILM	0.1uF	10%	250V
C407	1-127-741-41	ELECT	0.047uF	10%	250V
C408	1-128-971-11	ELECT	220uF	20%	50V
C409	1-128-971-11	ELECT	220uF	20%	50V
C410	1-117-775-31	FILM	0.1uF	10%	250V
C411	1-117-775-31	FILM	0.1uF	10%	250V
C414	1-117-775-31	FILM	0.1uF	10%	250V
C415	1-128-971-11	ELECT	220uF	20%	50V
C416	1-110-512-51	FILM	1uF	10%	50V
C417	1-110-512-51	FILM	1uF	10%	50V
C418	1-125-845-21	FILM	47PF	10%	50V
C419	1-125-845-21	FILM	47PF	10%	50V
C421	1-127-741-41	ELECT	0.047uF	10%	250V
C422	1-127-741-41	ELECT	0.047uF	10%	250V
C423	1-117-775-31	FILM	0.1uF	10%	250V
C424	1-117-775-31	FILM	0.1uF	10%	250V
C427	1-119-823-11	ELECT	4.7uF	20%	50V
C428	1-125-850-21	FILM	220PF	5%	50V
C429	1-136-157-00	FILM	0.022uF	5%	50V
C430	1-110-394-21	ELECT	220uF	20%	63V
C431	1-136-157-00	FILM	0.022uF	5%	50V
C432	1-136-157-00	FILM	0.022uF	5%	50V
C433	1-119-800-11	ELECT	100uF	20%	25V
C434	1-119-800-11	ELECT	100uF	20%	25V
C437	1-126-026-11	ELECT	470uF	20%	25V
C438	1-126-026-11	ELECT	470uF	20%	25V
		< CONNECTOR >			
* CN406	1-564-505-11	PLUG, CONNECTOR 2P			
		< COMPOSITION CIRCUIT BLOCK >			
CP401	1-418-105-11	AMPLIFIER, UNIT			
		< DIODE >			
D401	8-719-310-61	DIODE SEL1510C-D			
D402	8-719-300-04	DIODE SV-04			
D403	8-719-300-04	DIODE SV-04			
D404	8-719-300-04	DIODE SV-04			
D405	8-719-300-04	DIODE SV-04			
D406	8-719-024-99	DIODE 11ES2-NTA2B			
D407	8-719-024-99	DIODE 11ES2-NTA2B			
D408	8-719-024-99	DIODE 11ES2-NTA2B			
		< IC >			
IC401	8-759-579-36	IC OPA2132P			

Ref. No.	Part No.	Description			Remark
		< BUS BAR >			
JWH401	1-569-232-11	BAR, BUS			
JWH402	1-770-108-11	BAR, BUS 7P			
* JWH403	1-566-940-11	BUS BAR 6P			
		< COIL >			
* L401	1-428-071-11	COIL, AIR-CORE			
		< IC LINK >			
PS401	8-759-111-68	IC UPC1237HA			
		< TRANSISTOR >			
Q401	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q402	8-729-018-19	TRANSISTOR	2SK2013-Y		
Q403	8-729-018-21	TRANSISTOR	2SJ313-Y		
Q404	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q405	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q406	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q407	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q408	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q409	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q410	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q411	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q412	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q413	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q414	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q415	8-729-140-82	TRANSISTOR	2SA988-PAFAEA		
Q416	8-729-201-53	TRANSISTOR	2SA1015-GR		
Q417	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q418	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q419	8-729-201-53	TRANSISTOR	2SA1015TP-GR		
		< RESISTOR >			
R400	1-259-525-11	CARBON	56	2%	1W
R401	1-259-595-61	CARBON	47K	1%	1/2W
R402	1-259-595-61	CARBON	47K	1%	1/2W
R403	1-259-668-61	CARBON	470	2%	1W
R404	1-259-668-61	CARBON	470	2%	1W
R405	1-259-668-61	CARBON	470	2%	1W
R406	1-259-525-11	CARBON	56	2%	1W
R407	1-259-183-11	CARBON	4.7K	5%	1/4W
R408	1-259-171-21	CARBON	1.5K	5%	1/4W
⚠ R409	1-202-954-41	FUSIBLE	470	5%	1/2W
⚠ R410	1-202-954-41	FUSIBLE	470	5%	1/2W
⚠ R412	1-202-951-41	FUSIBLE	150	5%	1/2W
⚠ R413	1-202-951-41	FUSIBLE	150	5%	1/2W
⚠ R415	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R416	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R417	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R418	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R419	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R420	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R421	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R422	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R423	1-219-185-11	FUSIBLE	47	5%	1/2W
⚠ R424	1-219-185-11	FUSIBLE	47	5%	1/2W

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Ref. No.	Part No.	Description			Remark
⚠R425	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R426	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R427	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R428	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R429	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R430	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R431	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R432	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R433	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R434	1-205-647-11	CEMENTED	0.22	5%	5W
⚠R435	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R436	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R437	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R438	1-202-937-41	FUSIBLE	10	5%	1/2W
⚠R439	1-259-749-61	CARBON	10	2%	2W
⚠R440	1-202-954-11	FUSIBLE	470	5%	1/2W
R441	1-259-191-21	CARBON	10K	5%	1/4W
R442	1-249-959-11	CARBON	33K	5%	1/4W
R443	1-259-175-11	CARBON	2.2K	5%	1/4W
R444	1-259-171-21	CARBON	1.5K	5%	1/4W
⚠R445	1-249-959-11	CARBON	33K	5%	1/4W
⚠R446	1-249-883-11	CARBON	22	5%	1/4W
R447	1-259-227-11	CARBON	330K	5%	1/4W
R448	1-259-223-11	CARBON	220K	5%	1/4W
R449	1-249-953-11	CARBON	18K	5%	1/4W
R450	1-259-207-21	CARBON	47K	5%	1/4W
R451	1-259-219-11	CARBON	150K	5%	1/4W
R452	1-249-945-11	CARBON	8.2K	5%	1/4W
R453	1-214-945-00	METAL	2.2M	1%	1/2W
R455	1-202-937-41	FUSIBLE	10	5%	1/2W
R456	1-202-937-41	FUSIBLE	10	5%	1/2W
R457	1-259-167-21	CARBON	1K	5%	1/4W
R458	1-249-945-11	CARBON	8.2K	5%	1/4W
R459	1-249-945-11	CARBON	8.2K	5%	1/4W
R460	1-259-111-11	CARBON	4.7	5%	1/4W
R461	1-259-111-11	CARBON	4.7	5%	1/4W
R462	1-249-210-11	CARBON	1K	5%	1/3W
		< VARIABLE RESISTOR >			
RV401	1-224-489-11	RES, ADJ, METAL FILM 2.2K (BIAS R)			
		< RELAY >			
RY401	1-755-310-11	RELAY			
RY402	1-755-310-11	RELAY			

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Ref. No.	Part No.	Description			Remark
	1-673-333-11	PS-B BOARD			
		*********			
*	3-346-266-21	PLATE, GROUND			
*	4-916-791-01	PLATE, GROUND, 5P			
	7-682-148-15	SCREW, TR			
		< CAPACITOR >			
C502	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C503	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C504	1-117-775-31	FILM	0.1uF	10%	250V
C552	1-128-999-11	CAP, ELECT	27000MF		80V
C553	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C554	1-117-775-31	FILM	0.1uF	10%	250V
		< CONNECTOR >			
CN504	1-564-320-00	PIN, CONNECTOR 2P			
CN554	1-564-320-00	PIN, CONNECTOR 2P			
CN603	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
		< BUS BAR >			
* JWH502	1-569-135-11	BAR, BUS 4P			
JWH503	1-566-940-21	BUS BAR 3P			
JWH504	1-566-940-21	BUS BAR 3P			
* JWH552	1-569-135-11	BAR, BUS 4P			
JWH553	1-566-940-21	BUS BAR 3P			
JWH554	1-566-940-21	BUS BAR 3P			

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MISCELLANEOUS
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Ref. No.	Part No.	Description			Remark
C502	1-128-999-11	CAP, ELECT 27000uF		20%	80V
C503	1-128-999-11	CAP, ELECT 27000uF		20%	80V
C552	1-128-999-11	CAP, ELECT 27000uF		20%	80V
C553	1-128-999-11	CAP, ELECT 27000uF		20%	80V
CNJ1	1-580-375-41	INLET 3P			
Q304	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q305	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q306	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q307	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q308	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q309	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q310	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q311	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q312	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q313	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q404	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q405	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q406	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q407	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q408	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q409	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q410	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q411	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q412	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q413	8-729-018-13	TRANSISTOR	2SJ201A-Y		
⚠T1	1-433-767-11	TRANSFORMER, POWER (US,CND)			
⚠T1	1-433-768-11	TRANSFORMER, POWER (EXCEPT US,CND)			
TB351	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)			
TB351	1-694-541-21	TERMINAL BOARD (SP)(US,CND)			
TB451	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)			
TB451	1-694-541-21	TERMINAL BOARD (SP)(US,CND)			
TH301	1-576-080-11	THERMOSTAT			
TH401	1-576-080-11	THERMOSTAT			

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Ref. No.	Part No.	Description	Remark
	ACCESSORIES & PACKING MATERIALS		
	********************************		
⚠	1-551-631-22	CORD, POWER (EXCEPT US,CND)	
⚠	1-551-812-11	CORD, POWER (US,CND)	
	3-866-957-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
	3-866-957-21	MANUAL, INSTRUCTION (GERMAN,SPANISH, DUTCH,SWEDISH,ITALIAN,PORTUGUESE)(EXCEPT US,CND)	
*	4-396-077-01	JOINT	

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		*************	
		HARDWARE LIST	
		*************	
#1	7-682-962-01	SCREW +PSW4X10	
#2	7-683-438-04	BOLT, HEXAGON SOCKET 5X16	
#3	7-682-561-09	SCREW +B 4X8	
#4	7-682-546-09	SCREW +B 3X5	
#5	7-682-548-09	SCREW +B 3X8	
#6	7-682-562-09	SCREW +B 4X10	
#7	7-682-563-09	SCREW +B 4X12	
#8	7-682-148-15	SCREW, TR	
#9	7-682-568-09	SCREW +B 4X30	
#10	7-684-024-04	N 4, TYPE 2	
#11	7-685-870-01	SCREW +BVTT 3X5 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

9-928-913-11

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